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National Veterinary Medical Association of Great Britain and Ireland.

FIFTY-FOURTH ANNUAL MEETING, SCARBOROUGH, 1936.

Presidential Address

By

J. R. BARKER, M.R.C.V.S., D.V.H.

HEREFORD

The custom of your Association decrees that the President should deliver an address. It being necessary, I intend to be brief, but there are several things that arise in a year of office, and I feel I should indicate to you some of the impressions I have gained during that period.

If we take the word "politics" and define it to mean the business of life, I think this Association can be called political in the sense that it is mostly concerned with the business of life of veterinary surgeons. And then I think also that more of our members ought to take part and take their share in the public life and government of the country outside the National Veterinary Medical Association. (Hear, hear.)

It is high time, I feel, that a member of the Royal College of Veterinary Surgeons was in the House of Commons. (Applause.) It would exceedingly simplify political negotiations with Government Departments if we possessed such a recommendation by reason of being engaged in public life, and if we had a liaison in the person of a veterinary surgeon who was a Member of Parliament we would make more progress.

That brings me to the question of the impact of Government schemes and marketing schemes upon this Association and its members. I find the effects of these are very serious and that in a large measure they are causes of, if I may call it so, social unrest among our members. Now that should not be. Governments, when they bring in their recommendations and Orders, should have knowledge and should take steps to find out knowledge, of what effect those Orders would have on the internal economic arrangements of any profession such as ours.

One thing that has come out of the present situation, the Report of the Cattle Diseases Committee of the Economic Advisory Council, is the provision of free services. Of course, free services have to be paid for, and we have, during the last year, had a committee sitting under the chairmanship of Dr. Wooldridge, enquiring into the effects these free services are having upon the general welfare of the members of the "National." Without anticipating the committee's report, certain things are quite clear. I have spoken about the necessity for the Government to take into consideration the effect upon the "National" of their schemes, and it behoves the "National" to be ready to deal with Government Departments so that they may know what is going on. An exceedingly fine opportunity was presented to the "National" during my year of office in meeting representatives of the Colonial Office with regard to the salaries and conditions of work throughout the whole of the Colonies. We were exceedingly well received by Sir George Tomlinson at the Colonial Office; and one would welcome further opportunities from other Government Departments of going into the whole question as it would affect our members. (Applause.)

Another thing which has arisen during my year of office and which concerns each one of us is the question of public health. Speaking personally, I am in favour of extensive veterinary public health services. I am also in favour of the greatest freedom of action on the part of veterinary surgeons to ensure that the food products from animals are the purest possible for the consumption of the population of Great Britain and Ireland. But I think from my experience of public life that there is some line of delimitation with regard to the activities of public health veterinary services, and that line is clearly drawn between rate-aided

and State-aided services. The unfortunate position arises that rate-aided services can be voted for other purposes than for public health.

I have knowledge of several councils where the personnel of the committee sitting is composed of farmers who are voting services at great expense, for other services than direct public health services, and there comes the line of demarcation, in that State-aided services should deal with eradication schemes. I would not like to point out to the Government how they could bring that about, but I am clear in my own mind that the time is fast approaching for a National Health Service for animals throughout Great Britain and Ireland. That may seem a far-reaching statement to make, but at the present moment I feel we are putting the cart before the horse. If we had a national State service for the health of the animals throughout Great Britain and Ireland in which the veterinary surgeons were closely engaged, it would start not with the eradication schemes but with the ordinary economic losses which farmers suffer. We are well acquainted with the number of animals lost year in and year out that never receive the benefit of the aid of veterinary science. It has been suggested by economists that the farmer is due to lose the whole of his stock once every 20 years. It would be a great achievement if the veterinary profession could double that period and say he shall only lose his stock once in 40 years, and I feel quite confident that if we were serving some system whereby we could take veterinary science to the farmer we could achieve that object. Such a veterinary service should be put over to the public for its own sake—avoiding economic losses. It is quite true that indirectly public health benefits would follow. But when I was in America at the International Conference I heard Dr. Mohler say you should never put over eradication schemes for their public health benefit, but should put them over for what they have to achieve as an economic benefit to agriculture.

I have had some little experience in England in trying to sway city councils to give nothing but tuberculin-tested milk to children. I signally failed. It is amazing how little interest some people have in the question of the tuberculosis of other people's children. But I think we could justify the eradication schemes if we were properly organised to carry them out.

Well, such a condition in the nation's affairs demands that the "National" should be properly organised. I hope by the end of this Conference that we shall close our ranks and be properly organised to go forward so that we speak with one voice for the whole of the profession. (Applause.) I feel quite confident that if we did so the Government would meet our wishes and that we should receive all the consideration which is due to us and that, further, we should receive a return from the services that the veterinary profession can render to an agricultural community such as we have in England. For the services we give would really assist them and we should be remunerated in a proper manner. The organisation should include small and large farm-animal clinics at teaching centres. We should also have research work taking place with teaching, and also have our clinical investigation centres available closer and nearer to the actual practitioner who is taking part in the fight against diseases of animals. If we were organised in such a way I feel confident the public could look to us for the help they require. (Loud applause.)

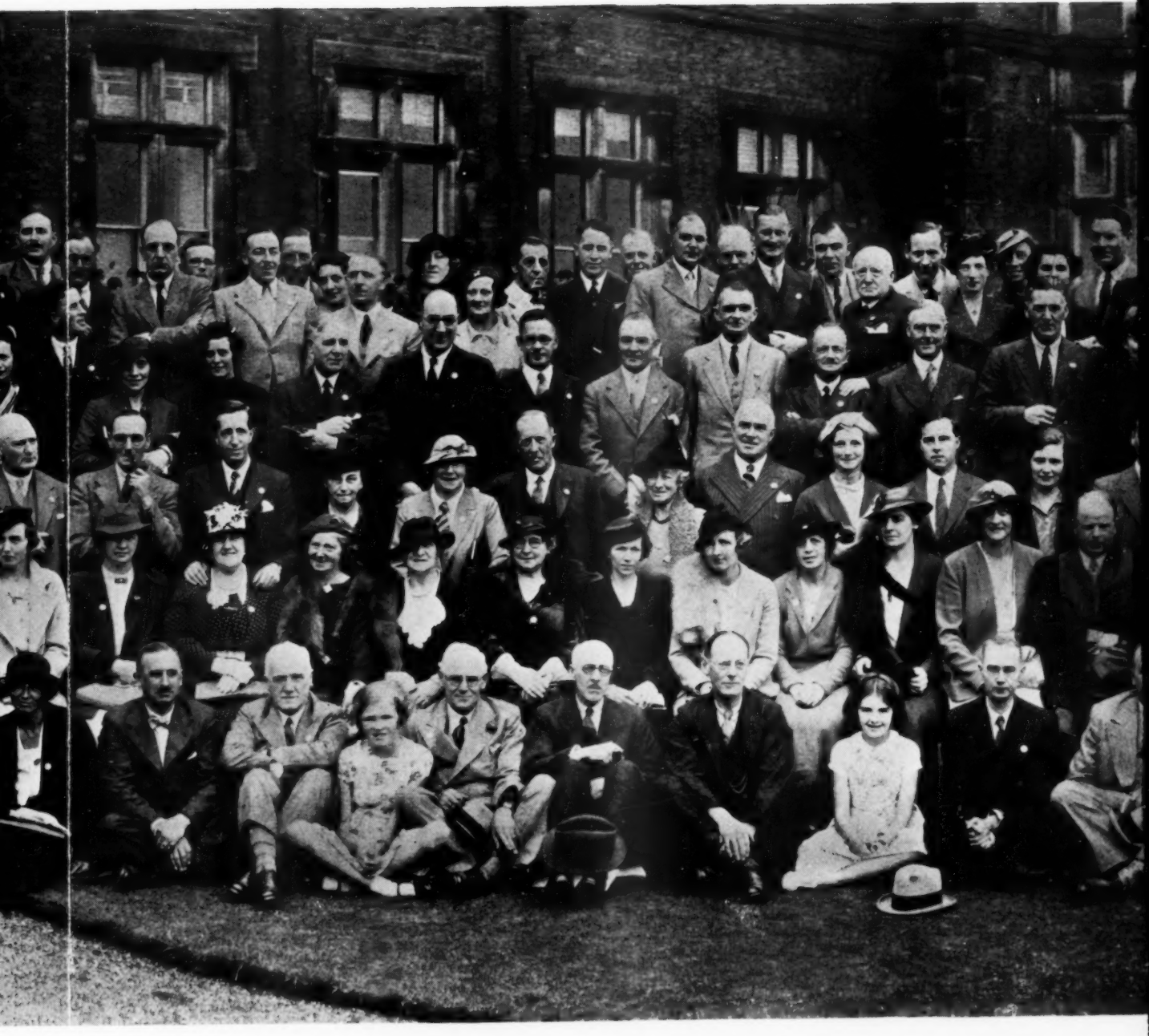
CONGRESS ATTENDANCE LIST

We give below the list of delegates, members and visitors who attended the Annual Congress of the Association at Scarborough, 1936.

Every effort has been made to render the list complete, but inasmuch as it would appear that many of those who took part omitted to sign the attendance book, there are, inevitably, some omissions.

Members

Captain J. R. Barker (President), Messrs. S. G. Abbott and E. Ackroyd, Captain H. Birkett Allan, Mr. C. G. Allen, Captain A. H. Andrew, Dr. W. H. Andrews, Messrs. L. S. Balls, D. S. Barbour, E. P. Barrett, N. S. Barron and H. Begg, Miss H. Bisset, Mr. W. P. Blount, Professor G. F. Boddie, Messrs. H. W. Steele Bodger, T. J. Bosworth and E. C. Bovett, Lieut.-Colonel H. G. Bowes, Mr. T. Bowett, Captain V. Boyle, Captain N. Brear, Messrs. H. W. Brekke, J. Brennan, John Brown and W. Brown, Professor T. G. Browne, Captain E. J. Burndred, Professor J. B. Buxton, Mr. E. R. Callender, Captain A. K. Cameron, Mr. J. Cameron, Captain Donald Campbell, Messrs. W. A. Campbell and A. J. Cattell, Major Frank Chambers, Mr. W. H. Chase, Captain F. Christopher, Messrs. J. Clarkson and M. Clarkson, Captain L. W. Coulden, Professor J. F. Craig, Messrs. W. Crawford and S R. J. Cussen, Major T. Dalling, Messrs. F. J. Daly and G. O. Davies, Major Brennan DeVine, Mr. W. A. Doughty, Major A. Douglas, Mr. R. E. Drennan, Major G. W. Dunkin, Mr. Dennis Dunn, Captain H. S. A Dunn, Captain W. G. Evans, Messrs. C. Formston, A. A. Forsyth, G. J. Furness, J. H. Gillespie, H. D. Gilmore and R. E. Glover, Major F. L. Gooch, Messrs. H. W. Good and J. C. Grant, Dr. J. Russell Greig, Captain O. V. Gunning, Major R. C. G. Hancock, Messrs. P. Harnett and F. T. Harvey, Major T. G. Heatley,



National Veterinary Medical Association of Great Britain and Ireland: Congress at Scar

at Scarborough, 1936.

[Photo by Walker's Studios, Ltd., Scarborough.

Messrs. H. Raynor Hewetson and C. G. Hill, Sir Frederick Hobday, Major T. R. R. Hoggan, Miss E. I. Hollander, Messrs. H. H. Holman, W. F. Howes, R. Hudson, H. Tudor Hughes, W. J. Ironside, D. S. Jack, T. R. Jarvie, R. P. Johns, D. Johnston, J. Ewing Johnston, J. Rhydwen Jones and H. Llewelyn Jones, Mrs. K. G. R. Kelly, Messrs. A. J. Kennedy, Herbert King and N. S. King, Major Hamilton Kirk, Mr. W. W. Lang, Captain P. T. Lindsay, Professor R. G. Linton, Messrs. G. H. Locke, E. F. McCleery and A. G. McCrea, Captain J. A. McCutcheon, Mr. J. J. McDowall, Major J. Gillray McGregor, Messrs. W. A. Macgregor, W. T. McGregor, J. W. McIntosh, J. McK. McKellar, T. McNabb, James Martin, G. Mayall, T. H. Mitchie and J. A. Milton, Dr. F. C. Minett, Mr. R. Mitchell, Professor W. M. Mitchell, Dr. R. F. Montgomerie, Mr. R. R. Moodie, Captain S. J. Motton, Messrs. W. Nairn, J. Nisbet, H. O'Leary and G. M. G. Oliver, Major R. H. H. Over, Major G. E. Oxspring, Mr. L. E. Perkins, Captain B. Philp, Major A. A. Pryer, Veterinary Lieut.-Colonel Graham Rees-Mogg, Messrs. D. Reeves and W. L. Richardson, Captain J. R. Rider (Hon. Secretary), Messrs. J. Ritchie, W. J. B. Robson and G. A. Sangster, Captain F. C. Scott, Captain G. Simons, Lieut.-Colonel P. J. Simpson, Captain R. Simpson, Captain J. Coningsby Smith, Messrs. R. M. Smith and A. H. Smythe, Miss Mary A. Somervail, Messrs. J. S. A. Spreull, J. S. Steward, W. Lyle Stewart, G. H. Thomas, T. Roger Thomas, Alex. Thomson and A. Thomson, Miss V. Tillemont-Thomason, Mr. J. F. Timoney, Major C. W. Townsend, Mr. S. B. Vine, Captain J. Waddell, Captain P. W. Walker, Major W. Walker, Mr. C. V. Watkins, Captain A. H. Watson, Captain W. Watt, Messrs. R. P. Webber, W. L. Weipers, T. Wilkinson, J. W. Wilson, D. R. Wilson and E. G. Wood, Professor G. H. Wooldridge, Dr. W. R. Wooldridge, Captain W. G. Wragg (Hon. Treasurer), Professor J. G. Wright, Captain A. Young and Mr. W. Jackson Young.

Delegates

Commonwealth of Australia. — Mr. H. L. Tinney, B.V.Sc.

Ministry of Agriculture and Fisheries.—Mr. J. O. Powley, M.R.C.V.S.

Ministry of Health.—Dr. W. A. Lethem, *M.C.*

Department of Agriculture, Irish Free State.—Mr. J. H. Norris, M.R.C.V.S.

County Councils:

Ayrshire, Mr. Daniel Sim; Buckinghamshire, Mr. H. B. Collet, B.V.Sc., M.R.C.V.S.; Derbyshire, Dr. W. M. Ash and Mr. H. Burrow, M.R.C.V.S., D.V.S.M.; Dumbarton, Mr. James McDougall, M.R.C.V.S.; Essex, Mr. F. W. Medlock, M.R.C.V.S.; Fife, Mr. J. C. Henderson and Major R. G. Anderson, *O.B.E.*, *T.D.*, F.R.C.V.S.; Glamorganshire, Mr. J. Howard Jones, *O.B.E.*, M.R.C.V.S.; Gloucestershire, Mr. J. T. Taylor, M.R.C.V.S.; Hampshire, Mr. G. W. Begg, M.R.C.V.S., D.V.S.M.; Midlothian, Mr. W. D. Macrae, M.R.C.V.S., D.V.S.M.; Nottinghamshire, Captain H. L. Torrance, M.R.C.V.S., D.V.S.M.; Somerset, Mr. W. Tweed, M.R.C.V.S., D.V.S.M.; Staffordshire, Mr. F. A. Davidson, B.Sc., M.R.C.V.S.; Surrey, Mr. E. Clark, M.R.C.V.S., D.V.S.M.; Sussex (West), Dr. L. Jordan, M.R.C.V.S.; Worcestershire, Mr. Walter Scott, F.R.C.V.S., D.V.S.M.; Yorkshire (West Riding), County Alderman William Dean.

City and Town Councils:

Belfast, Mr. A. McLean, M.R.C.V.S., D.V.H.; Bradford, Mr. W. Halstead, M.R.C.V.S., D.V.S.M. (VICT.); Cardiff, Mr. J. H. M. Hughes, M.R.C.V.S., D.V.S.M.; Edinburgh, Mr. A. Gofton, F.R.C.V.S., and Bailie Alexr. Thomson; Glasgow, Mr. John Hamilton; Halifax, Mr. J. Pollard, M.R C.V.S., D.V.S.M.; Huddersfield, Mr. W. R. McKinna, M.R C.V.S., D.V.S.M.; Leeds, Councillor Beatrice C. Ives and Lieut.-Colonel J. A. Dixon, *T.D.*, M.R.C.V.S.; Liverpool, Mr. H. T. Matthews, B.V.Sc., F.R C.V.S., D.V.H.; London, Mr. L. B. A. Grace, M.R.C.V.S., D.V.S.M.; Manchester, Councillor P. J. Howard, Mr. A. Chadwick, Mr. W. K. Johnstone, M.R.C.V.S., and Mr. R. C. Locke, M.R.C.V.S., D.V.S.M.; Newcastle-upon-Tyne, Mr. T. Parker, F.R.C.V.S.; Paisley, Mr. James Andrew, M.R.C.V.S.; Peterborough, Mr. W. K. Townson, M.R.C.V.S.; Preston, Major R. Finch, *M.C.*, *T.D.*, F.R.C.V.S., D.V.S.M.; Sheffield, Mr. H. M. Salusbury, M.R.C.V.S., D.V.H.; Stoke-on-Trent, Councillor J. Kearns and Mr. F. H. Manley, M.V.Sc., M.R.C.V.S.; Wakefield, Major D. S. Rabagliati, *O.B.E.*, B.Sc., M.R.C.V.S., D.V.S.M.; Wallasey, Councillor A. B. Todd and Mr. G. Tullis, M.R.C.V.S., D.S.V.M.; West Ham, Mr. H. E. Bywater, M.R.C.V.S.; Wigan, Mr. W. Woods, M.Sc., F.R.C.V.S.

Visitors

Mrs. A. H. Andrew, Mrs. J. Andrew, Mrs. L. S. Balls and Miss Iris Balls, Mrs. Barker, Mrs. Knight Barron, Mrs. Blench, Mrs. Steele Bodger and family, Mrs. E. C. Bovett, Mrs. H. G. Bowes and Miss E. B. Bowes, Dr. F. Bullock, Mrs. E. J. Burndred, Mrs. H. Burrow, Mrs. Bywater, Mrs. A. K. Cameron, Mrs. and Miss Chadwick, Mrs. F. Christopher and Miss B. Christopher, Mrs. A. Clarkson, Mrs. L. B. Collet, Mrs. W. Crawford, Mrs. Daly, Mrs. Dunkin, Mrs. L. Evans, Mrs. Finch, Mrs. C. Formston, Mrs. E. M. Gillespie, Mrs. H. D. Gilmore, Mrs. D. Glover, Mrs. R. C. G. Hancock, Mr. T. Henderson, M.P., Mrs. L. G. Howard, Mrs. R. Hudson, Mr. M. Hughes, Mrs. Jarvie, Mrs. W. K. Johnstone,

Mr. N. Kennedy, Mrs. F. A. King, Professor Nils Lagerlöf, Mrs. Lamont, Mrs. G. H. Locke, Mrs. R. C. Locke, Mrs. McCleery, Mrs. J. A. McCutcheon, Mrs. and Miss McDougall, Mrs. McDowall, Mrs. MacGregor, Mr. J. McInnes, Mrs. K. McKellar, Mrs. McNabb, Mr. John Maffey, Mr. E. W. Marshall, Mrs. I. Matthews, Mrs. E. Michie, Mrs. Minett, Mr. F. R. D. Minett, junr., Mrs. R. Mitchell, Mrs. Moodie, Mr. L. T. Morris, Mrs. S. J. Motton, Mrs. Nairn, Mrs. Oliver, Mrs. E. D. Perkins, Miss A. Phyllis Ponsford, Miss Powley and Mr. G. S. Powley, Mrs. A. A. Pryer, Mrs. L. E. Rabagliati, Mr. J. A. Rennie, Mrs. Richardson, Mrs. J. R. Rider, Mr. A. Forbes Ritchie, Mr. H. B. Rudduck, Mrs. G. A. Sangster, Mrs. W. Scott, Mrs. P. J. Simpson, Miss Smith, Mrs. Scott Taggart, Mrs. T. Roger Thomas, Mrs. A. Thomson, Miss M. Tillemont-Thomason, Mr. J. Cleghorn Todd, Mrs. W. K. Townson, Mrs. H. Ullyot, Mrs. and Miss K. Watson, Mrs. P. E. Webber, Dr. E. E. Wegner (Dean, Veterinary School, Washington University, U.S.A.), Mrs. Wilkinson, Mr. Joseph Wilks, Mrs. G. H. Wooldridge, Mrs. W. R. Wooldridge, Mrs. and Miss Wragg, Mrs. J. G. Wright, Mrs. A. Young and Mrs. W. Jackson Young.

Total attendance recorded 319

Captain Simpson Prior to Shouldering "Cares of Office" as President

OFFICIAL OPENING OF CONGRESS

Civic Welcome at the Public Library

The Lecture Room at the Public Library, Scarborough, presented an animated and colourful scene when the delegates—many in academic robes—and their ladies assembled at 10 a.m. on the opening day of Congress, Monday, September 14th, 1936, to be accorded a Civic Welcome by the Mayor of Scarborough. The platform party included, in addition to the President of the Association (Captain J. R. Barker) and the Town's Chief Citizen (Councillor F. C. Whittaker), the Deputy Mayor (Alderman G. K. G. Pindar), the Town Clerk (Mr. Sydney Jones), the Publicity Manager to the Corporation (Mr. Sydney Ford), the Hon. Treasurer of the N.V.M.A. (Captain W. G. Wragg), the Hon. Secretary (Captain J. R. Rider), the Chairman of the Provisional Committee (Mr. J. O. Powley) and the Local Hon. Secretary (Mr. E. F. McCleery).

The President, Captain J. R. Barker, M.R.C.V.S., D.V.H., introducing the Mayor, said: This is the Fifty-fourth Annual Congress of the National Veterinary Medical Association of Great Britain and Ireland. At Belfast last year you were good enough to say that we would meet in Scarborough this year, and I think your decision, so far as the weather and the town is concerned, is ideal. Without more ado I will ask the Mayor, as the first Citizen of Scarborough, to give you his official welcome.

His Worship the Mayor (Councillor F. C. Whittaker): Allow me, in the first place, to extend to you a most hearty welcome to Scarborough for the purpose of holding your Conference. I hope your visit will be a successful one from every point of view, and the good weather now shining upon us will continue during your stay amongst us.

You have come here not to listen to me but to others. I do not know whether you know it, but you are just eight days "previous" in this room. A week to-morrow I am to declare this building officially open to the public. If you are not "gate-crashers," at any rate you are favoured individuals in being allowed in here before the ratepayers, who had the privilege of paying for it. (Laughter.) I am very sorry that it will not be possible for me to meet you this evening at your reception, and at the banquet on Wednesday, because I have to go away at midday on Corporation business, but I am handing you over to the care of the Deputy Mayor, Alderman Pindar, who will preside this evening and dine with you on Wednesday.

With these few words I once more welcome you to Scarborough and express the hope that

you will soon be back again amongst us, and that you will have a very happy time. (Applause.)

The President: On your behalf I am sure you would wish me to move a hearty vote of thanks to the Mayor for his welcome. We extend to the Mayor our thanks also, for his own personal sake, for what he is going to do in entertaining us to-night to a civic reception. We regret that he is unable to attend, but I have had some conversation with Alderman Pindar and I feel quite sure that he will make a good substitute for His Worship. I ask you to accord a hearty vote of thanks for the official welcome.

The assembly having made generous response, the Mayor, replying, said: I thank you very much for the vote of thanks which, I take it, is really a vote to the town for allowing you the use of this building, to which I am sure you are very welcome. (Applause.)

Professor Wooldridge: "Now, Gladstone, What You *Should* Have Said in 1895 . . . . !"

The All-Union Vitamin Institute of Leningrad has worked out a method of canning vegetables which will preserve the vitamins "A" and "C," hitherto destroyed in the process of canning. Scientific workers from the Institute have been sent to the Ukraine, the Crimea, Georgia and other canning centres in the Union to apply the new methods at the canning factories.

CONGRESS MEETING OF COUNCIL, N.V.M.A.

RECOMMENDATIONS TO ANNUAL GENERAL MEETING

Adoption of Important Proposals by the Finance Committee

A meeting of the Council, N.V.M.A., was held in the Public Library, Scarborough, on the afternoon of Wednesday, September 16th, 1936, with the President (Captain J. R. Barker) in the Chair. There were also present Mr. L. S. Balls, Professor G. F. Boddie, Professor J. B. Buxton, Messrs. H. W. Steele Bodger, H. E. Bywater, D. Campbell, Professor J. F. Craig, Major T. Dalling, Major Brennan deVine, Lieut.-Colonel J. A. Dixon, Major G. W. Dunkin, Mr. Arthur Gofton, Captain O. V. Gunning, Sir Frederick Hobday, Captain H. Tudor Hughes, Major H. Kirk, Messrs. W. W. Lang, G. H. Locke, E. F. McCleery, Major J. G. McGregor, Messrs. J. W. McIntosh, W. R. McKinna, Professor W. M. Mitchell, Mr. H. G. Lamont, Captain S. J. Motton, Messrs. W. Nairn, H. O'Leary, Major R. H. H. Over, Major D. S. Rabagliati, Captain J. R. Rider (Hon. Secretary), Messrs. G. A. Sangster, H. M. Salusbury, Lieut.-Colonel P. J. Simpson, Captain R. Simpson, Messrs. A. Thomson, W. K. Townson, T. Wilkinson, W. Woods, Professor G. H. Wooldridge, Dr. W. R. Wooldridge, Captain W. G. Wragg (Hon. Treasurer), and Captain A. Young, together with Mr. C. O. Langley (Solicitor) and Mr. F. Knight (Secretary).

Apologies for absence were received from Messrs. H. Bell, J. C. Coleman, P. F. Dolan, E. P. Edwards, J. Fox, H. Gillmor, John Holroyd, G. Howie, G. P. Male, Professor J. J. O'Connor, Messrs. E. Brayley Reynolds, H. L. Roberts, Major A. Spreull, Mr. H. P. Standley, Sen., Major F. J. Taylor, Major J. H. Taylor, Dr. A. W. Whitehouse and Mr. J. D. Whitty.

The minutes of the previous meeting, having been published in the *Veterinary Record*, were taken as read and signed as correct.

Annual Report and Balance Sheet.—The Annual Report for the year 1935-36, and the Revenue Account and Balance Sheet for the year ending December 31st, 1935, were approved for presentation to the Annual General Meeting.

Annual Meeting, 1937.—The venue for the Annual Meeting of 1937 was considered. In this connection invitations were received from Bournemouth, supported by Mr. E. P. Edwards; Buxton; Cardiff, supported by the Mid-West Division; Hove, supported by the Sussex Veterinary Society, and Harrogate, together with a letter from the Malvern Development Association. After discussion, it was agreed to recom-

mend that the Annual Meeting of 1937 be held at Hove.

Nomination of President and President-Elect

President.—The retiring PRESIDENT (Captain J. R. Barker) proposed the nomination of Captain R. Simpson, of Carlisle, for election as President of the Association for the year 1936-37. This was seconded by Mr. H. W. STEELE BODGER, and it was unanimously agreed to recommend to the Annual General Meeting accordingly.

President-Elect.—On the proposition of the PRESIDENT, seconded by Major RABAGLIATI, the Council unanimously agreed to recommend that Mr. Donald Campbell, of Rutherglen, be nominated as President-Elect.

Nomination of Vice-Presidents and Other Officers

Vice-Presidents.—It was resolved to recommend to the Annual General Meeting that the Vice-Presidents be as follows:—

For England and Wales (North): Major D. S. Rabagliati.

For England and Wales (South): Captain S. J. Motton.

For Scotland: Captain H. Gillmor (Ayr).

For Ireland: Mr. J. Ewing Johnston (Belfast).

Hon. Treasurer.—It was unanimously agreed to recommend that Captain W. G. Wragg be re-elected to the Office of Hon. Treasurer.

Hon. Secretary.—For the office of Hon. Secretary, the Council unanimously resolved to recommend the re-election of Captain J. R. Rider.

General Secretary.—On the proposition of the PRESIDENT it was resolved to recommend that Mr. F. Knight be re-elected General Secretary for the ensuing year.

Auditors.—The Council unanimously resolved to recommend that Messrs. Fairbairn, Wingfield and Wykes be re-elected the Association's auditors.

RE-APPOINTMENTS BY COUNCIL

Solicitors.—Messrs. Fowler, Langley and Wright were unanimously re-appointed the Association's solicitors.

Editorial Representative.—On the proposition of the PRESIDENT the re-appointment was made of Mr. W. Brown as Editorial Representative.

. . . . . .

The Solicitor presented a report on a case in which a member had accepted an appointment at a salary below the Association's scale for such a post in spite of announcements in the *Veterinary Record* advising members not to apply for such appointments advertised in lay publications. This report was approved and it was unanimously agreed that the resolution embodied in the report be submitted to the Annual General Meeting.

Finance and General Purposes Committee

The following report of the Finance and General Purposes Committee was read by the Chairman (Professor G. H. Wooldridge).

There have been two meetings of the Finance and General Purposes Committee since the Council met in Edinburgh in June. Professor G. H. Wooldridge occupied the Chair at the first meeting, and Mr. J. W. McIntosh at the second.

Office Accommodation.—In connection with a number of offers of office accommodation the Committee felt that they were all beyond the range of the Association's financial abilities and that the expenditure on this should not exceed double the amount presently incurred, noting that the most urgent need was for more office accommodation, irrespective of its including a Council Chamber, as there are only either three or four Council Meetings each year.

It was agreed to make enquiries whether larger premises were obtainable in Gray's Inn or one of the neighbouring Inns, but as it was ascertained later from these societies that no such premises were vacant or likely to be vacant the Committee decided to accept the offer of Gray's Inn of a further lease of 2, Verulam Buildings for three years from March next at the existing rent.

At the same time it was agreed that the Premises Sub-committee should continue its search for larger office accommodation elsewhere, and to this Sub-committee Major Dunkin and Dr. Wooldridge were added.

REDUCED SUBSCRIPTION FOR NEW GRADUATES

The Committee decided to advise the Council to recommend to the Annual General Meeting that, with effect from January 1st, 1937, there be reduced membership subscriptions for new graduates, namely:—

(*a*) For those qualifying in July and applying immediately for membership—10s. 6d. for the remainder of year, and £1 1s. 0d. for the following year; the full subscription of £2 2s. 0d. becoming payable in the next subsequent year.

(*b*) For those qualifying in December and applying immediately—£1 1s. 0d. for the first year, the full subscription of £2 2s. 0d. becoming payable in the subsequent year.

ROYAL VETERINARY COLLEGE

A letter was read from the Secretary of the Royal Veterinary College intimating that, in deference to the wishes of the Privy Council, the Governors had, under the proposed new Charter, agreed to increase the representation of the staff on the new Council to four members in all, including the Principal of the College, and that in these circumstances they (the Governors) felt that this increased representation gave effect in a different form to the view of the Association that the profession should be more adequately represented on the Council.

While the Committee noted with appreciation this increased representation of the staff, it was decided to reply that it was still felt that the Association should be directly represented on the Council, but that if this could not be arranged, then the Association desired to urge that the representation of the Royal College of Veterinary Surgeons should be increased.

It was decided that copies of the foregoing reply should be sent to the Privy Council and the Royal College of Veterinary Surgeons.

To these renewed representations a further letter has been received regretting that the Governors are unable to alter the views expressed in their previous letter.

The Committee are now making enquiries as to the outcome of the steps taken by the Royal College of Veterinary Surgeons, and will then consider a suggestion that the Association should now make representations to the Privy Council direct.

With regard to the provision already made in the new Charter for the election of four representatives of the N.V.M.A. on the Court of Governors of the Royal Veterinary College, the Committee resolved to recommend to the Council that, when called for, the nominees of the Association be Captain J. R. Barker, Mr. H. W. Dawes, Major Hamilton Kirk, and the Hon. Treasurer (Captain W. G. Wragg).

Consideration has been given to the following resolution from the Society of Veterinary Practitioners:—

> "That this Society ask the N.V.M.A. to request the Royal Veterinary College to consider the establishment of a scale of fees for all operations, in order that the College may not compete unfairly in this matter with general practitioners."

It was decided to recommend to the Council that a Sub-committee be appointed to interview the Principal of the Royal Veterinary College on this matter, and that if this is agreeable to the Council, the members of this Sub-committee be the President, Mr. Steele Bodger and Major Kirk.

Scale of Travelling and Subsistence Allowances

Having reviewed the Association's scale of travelling and subsistence allowances, the Committee agreed to recommend to the Council that in place of first-class railway fares for members attending conferences and serving on deputations, third-class should be allowed in future, thus bringing these rates into line with those allowed to members of special committees.

Constitution of the Council

Consideration has been given to the following resolution from the Scottish Branch:—

> "The whole question of the representation of the Branches and Divisions on the Council of the N.V.M.A. should be considered with a view to reducing the size of the Council in order to promote more efficient working,"

and to proposals in the same connection submitted by Mr. Steele Bodger.

It was decided to report to the Council that after full deliberation the Committee consider that the representation of Branches and Divisions should be on the widest possible basis, and consequently they are of opinion that the existing basis of representation should not be altered.

In order to promote more efficient working of the Association, the Committee decided to put forward the following recommendations for the consideration of the Council:—

(*i*) That the Finance and General Purposes Committee should be composed of the Chairmen of all the Standing Committees, the Immediate Past-President and the President-Elect, together with a sufficient number of members of Council or the Association to bring it up to the strength allowed by the bye-laws (15);

(*ii*) That the President for the time being be Chairman of the Committee;

(*iii*) That the Committee be given executive powers in cases of emergency; decision as to emergency to be exercised by the President.

Dentition and Age of Animals.—A Sub-committee consisting of Dr. O. Charnock Bradley, Major Brennan deVine, Professor W. C. Miller and Mr. G. V. Slinn, has been appointed to act with the Chairman of the Finance and General Purposes Committee for the purpose of advising the Committee on points concerning the relation of dentition to the age of animals raised in a letter from the Hereford Herd Book Society.

To this Sub-committee has been referred a letter from Mr. F. O. L. Walpole, whose assistance had been sought for the Sub-committee, enquiring whether the Association would co-operate with him in publishing a pamphlet recording his observations on the subject.

Report of Special Committee on Small Animal Euthanasia.—The question as to the price at which the Report of the Special Committee on Small Animal Euthanasia, when published shortly, should be sold was raised by the Chairman of that Committee, Major Dunkin.

It was decided that the charge to non-members of the Association and other bodies should be 5s. per copy.

Whether a charge should be made to members of the N.V.M.A. was also discussed, but it was agreed that this should be left to the Council to decide.

Extension Fund of the Royal (Dick) Veterinary College.—The Committee received a letter of appeal for contributions to the Extension Fund of the Royal (Dick) Veterinary College. It was decided to recommend the Council to make a donation of 100 guineas.

Town Planning.—Consideration was given to a letter from a member asking for the support of the Association, and, if possible financial assistance, in connection with an appeal being made on his behalf to the Ministry of Health against the refusal of an Urban District Council to give permission for him to build a surgery and consulting room in a central part of an area zoned for residential purposes.

After hearing the President's observations on the matter following upon his consultation with the Association's Solicitor, and seeing a sketch plan of the building which this member desires to erect, the Committee decided to instruct Mr. Langley to arrange for the solicitors acting for the member in question to watch the case in the interests of the profession, and if it should go against the member, to ask the Inspector of the Ministry to state his reasons for disallowing the appeal and to request that these be included in the published records of such appeals.

Audited Accounts for 1935.—The audited accounts for 1935 have been placed before the Committee, together with the Hon. Treasurer's observations thereupon.

Scarborough Handbook.—It was agreed to acquiesce in the request of the Provisional Committee that the Association should meet the cost of approximately £6 for the insertion of the programme of the Congress in the Handbook distributed to members of the Association by the Corporation of Scarborough.

The report was adopted subject to the reference back of the recommendation made with regard to the Association's scale of travelling and subsistence allowances.

Arising out of the presentation of the above report, it was agreed that consideration be given by the Finance and General Purposes Committee as to whether the organisation at the office can be so arranged as to render possible the circulation of minutes of committee meetings well in advance of the meeting of Council to which they are due for presentation.

Dr. Wooldridge asked permission to bring forward a resolution concerning the question of new premises. The President informed Dr. Wooldridge that although he could not allow this, his proposals could be properly considered by the Finance and General Purposes Committee in due course.

. . . . .

Correspondence.—After an adjournment for the Annual General Meeting, the following correspondence was presented:—

(*i*) From the Sussex Veterinary Society seeking affiliation as a Division of the Association. After discussion, it was resolved that the application of the Sussex Veterinary Society be acceded to.

(*ii*) From the Scientific Secretary of the Scottish Board of Research in Veterinary Science forwarding for information the following interim report on research into white scour undertaken by that body:—

SCOTTISH BOARD OF RESEARCH IN VETERINARY SCIENCE

White Scour and Allied Diseases of Calves

Interim Report

At the Congress of the National Veterinary Medical Association held in Edinburgh in August, 1934, it was resolved "that a small committee be formed to consider the possibility of the National Veterinary Medical Association taking steps in conjunction with the National Farmers' Union of Scotland to formulate an organised programme of research into white scour and allied diseases of calves." The resolution of Congress was adopted by Council in October, 1934, and the following committee was constituted: Captain James Anderson, Mr. Hugh Begg, Mr. Duncan Cumming, Mr. Arthur Gofton, Dr. J. Russell Greig, Dr. W. S. Gordon, , Mr. Wm. Nairn and Mr. R. McDill Smith—as representing the National Veterinary Medical Association—with Major Wilson, Keith, and Mr. R. Garvie, Blairgowrie—as representing the National Farmers' Union.

The Committee met on December 5th, 1934, when it was recommended that the Council of the National Veterinary Medical Association and the National Farmers' Union should make representation to the Scottish Board of Research in Veterinary Science, urging that immediate steps be taken to institute an investigation into white scour and allied diseases of calves. This recommendation was approved at a meeting of the Council of the National Veterinary Medical Association in January, 1935, and received the support of the Central Executive of the National Farmers' Union. At a meeting of the Scottish Board of Research in Veterinary Science, held on March 21st, 1935, it was unanimously agreed that the matter should receive their support and a White Scour Committee was formed for the purpose of initiating research into the subject.

As a preliminary, a summary of the existing knowledge on white scour as it occurs in different parts of the world was prepared and, in view of the fact that there was evidence that the administration of vitamin A to stall-fed cows during the later phases of pregnancy and to calves during the first week of post-natal life tended to reduce the incidence of the disease, controlled field experiments designed to test this matter were thereupon devised and have been conducted throughout the winter 1935-36. The experiments have just been completed and reports upon the results are now being collated. A further interim report will be issued in due course.

J. RUSSELL GREIG, *Scientific Secretary.*

June, 1936.

New Members.—The following, having submitted nomination forms, duly completed, and paid their subscriptions, were unanimously elected to membership: Messrs. W. G. S. Angus (Newtown); L. A. P. Brito-Babapulle (London); G. T. Cattell (Cardiff); D. M. Gray (Newcastle); C. S. Haselden (Northwood); Major T. Hodgins (R.A.V.C.); J. MacKinnon (Winchester); P. M. McManus (Dublin); R. H. A. Merlen (Sudan); R. P. Morgan (Newbury); C. M. Peatt (Birmingham); R. G. Saunders (Exeter); J. F. Shirlaw (India); W. L. Sinton (R.A.V.C.); C. H. Pott (Hove); Miss C. C. Sparke (London); J. H. Stewart (Burton-on-Trent); C. Sweeney (Blackburn); Miss A. P. Wenner (Bramhall); F. T. Williams (Ayr); D. K. Bryson (Plymouth).

Organising Committee

In the absence of the Chairman (Mr. R. Barons Nelder), the following report of this Committee was read by the Secretary:—

A meeting of the Organising Committee was held at the Offices of the Association on Monday, September 7th, 1936.

Mr. R. Barons Nelder occupied the Chair, and there were also present the President (Captain J. R. Barker), Captain O. V. Gunning, Major H. Kirk, Professor W. M. Mitchell, Major-General Sir John Moore, Mr. H. P. Standley, Senr., Mr. T. Wilkinson and Dr. W. R. Wooldridge.

Apologies for absence were received from Captain J. C. Coleman, Major R. H. H. Over, and the Hon. Secretary (Captain J. R. Rider).

The minutes of the previous meeting were read and signed as correct.

It was reported that since the meeting of Council held in Edinburgh, in June, it had been ascertained that it was the view of Mr. Langley that it would be *ultra vires* for the funds of the Association to be used for the purpose of paying any salary or remuneration to those who would work the Scheme submitted by Mr. W. Almond for the establishment of a "National Health Society for Dogs," or for the purchase of the copyright in the Scheme. Upon this being brought to the notice of the Finance and General Purposes Committee, a letter to the same effect had been sent to Mr. Almond, and the Committee now considered a further letter from him asking whether in the event of his deciding to proceed independently with the scheme he could quote that it had the approval of the N.V.M.A.

After discussion, the Committee felt unable to recommend the Council to give such approval until an agreed and detailed scheme has been arrived at.

It was agreed, however, that in order to facilitate the preparation of such a detailed scheme the Council should be asked to authorise the Committee to consider its detailed organisation in conjunction with Mr. Almond.

A communication was received from the North of England Division stating that the feeling had been expressed at a meeting of that Division that the fees offered by Insurance Companies for the examination of animals proposed for insurance were entirely inadequate, and suggesting that if the payment of larger fees was incompatible with the present premiums, efforts might be made to induce the companies to raise the premiums.

After consideration the Committee came to the conclusion that, having regard to the value of livestock and the premiums involved in their insurance, it was not at present practicable to press for an increase in fees for this work.

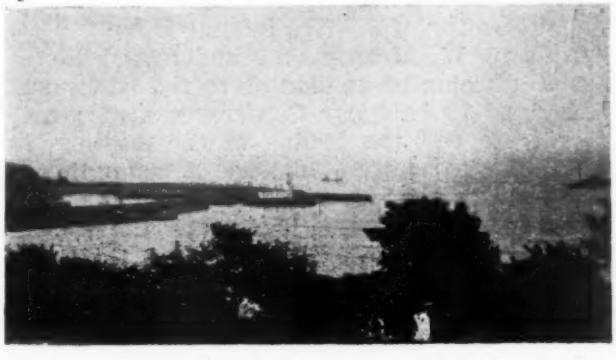
In connection with this matter the Committee would recommend that when members are requested to undertake the examination of animals in cases considered by the insurance company to be urgent, the fee payable should be agreed upon prior to the examination.

After discussion of the proposal in the report relative to Mr. Almond's scheme, it was decided, on the proposition of Professor Wooldridge, that no further action be taken in the matter.

With the above reservation, the report was received and adopted.

British National Committee for the Thirteenth International Veterinary Congress, 1938

Following upon the consideration of letters from Mr. P. J. L. Kelland and the Secretary of the Royal College of Veterinary Surgeons, it was agreed to accept the suggestion contained in Mr. Kelland's letter that the N.V.M.A. should join with the Royal College of Veterinary Surgeons in the formation of a British National Committee for the Thirteenth International Veterinary Congress, 1938, and the following were appointed to serve on the Committee as representing the N.V.M.A.—Captain J. R. Barker, Professor J. F. Craig, Sir Frederick Hobday, Dr. F. C. Minett and Professor W. M. Mitchell.



Harbour, from Royal Hotel

ANNUAL GENERAL MEETING

Captain R. Simpson Elected President

The Fifty-fourth Annual General Meeting of the National Veterinary Medical Association of Great Britain and Ireland was held at the Public Library, Scarborough, Yorkshire, at 3.30 p.m. on Wednesday, September 16th, 1936, the President (Captain J. R. Barker) occupying the chair.

The list of those in attendance at Congress will be found following the President's Address in this issue. Following is the list of members who sent apologies for absence from the Annual General Meeting: Mr. H. Bell, Captain J. C. Coleman, Mr. P. F. Dolan, Mr. E. P. Edwards, Captain J. Fox, Captain H. Gillmor, Mr. John Holroyd, Captain G. Howie, Mr. G. P. Male, Mr. J. W. Hall Masheter, Professor J. J. O'Connor, Captain E. Brayley Reynolds, Mr. H. L. Roberts, Major A. Spreull, Mr. H. P. Standley, senr., Colonel G. K. Walker, Major J. H. Taylor, Major F. J. Taylor, Mr. J. Willett, Dr. A. W. Whitehouse and Mr. J. D. Whitty.

The Secretary read the notice convening the meeting, dated August 22nd, 1936.

The President: Is it your wish that I sign the minutes of the last Annual General Meeting as correct? Thank you.

WELCOME TO FOREIGN DELEGATES

The President: The next item on the agenda, ladies and gentlemen, is to offer a welcome to the foreign delegates, and I think we might include in that a welcome to the foreign visitors. I understand, and you will have noticed, that Professor Nils Lagerlöf is with us at this Congress and will speak to-morrow morning. (Applause.) It will be my pleasure to take the chair at that address and I will speak more fully about Professor Nils Lagerlöf and his efforts then. I understand also that we have with us Dr. Wegner, from the State of Washington, in the United States of America. I have on your behalf extended to him a welcome to the Conference. (Applause.) We also have with us Mr. Tinney, a representative of the Australian Government in London.

Yesterday I had the pleasure to welcome a lady from Russia. Her name has escaped me—(laughter)—but she brought with her an interpreter and we were able to give her quite a lot of assistance. To all these people we offer a hearty welcome to our Annual Congress. (Applause.)

Presidential Address.—The President then delivered his Presidential Address. [This Address, which was received with enthusiastic appreciation, is reproduced at the commencement of this Special Congress Number of the *Veterinary Record*.]

The General Secretary read the following telegram, which the President said had been received that morning from Sir Weldon and Lady Dalrymple-Champneys in reference to their absence from the Annual Banquet: "Happy memories of past Congresses make us regret all the more our inability to be with you to-night, but that you may have a happy evening and very successful Congress is the sincere wish of Sir Weldon and Lady Dalrymple-Champneys." (Applause.)

THE DALRYMPLE-CHAMPNEYS AWARDS

Presentation to Major Dunkin

The President: That gives me the opening to announce to you the recipient of the Dalrymple-Champneys Cup and Medal for this year. That is Major G. W. Dunkin, M.R.C.V.S., D.V.H. (Loud applause.) I find that Major Dunkin qualified in 1908 and took a post-graduate course at Liverpool University in 1910. I had the pleasure of being a student at Liverpool University and taking in my final year the D.V.H. course which our friend, and the recipient of this prize this afternoon, was taking. Therefore you can imagine the pleasure it affords me personally to present this medal to Major Dunkin. This is not his only claim. He has served the Medical Research Council at Mill Hill for several years and his name is associated with the Laidlaw-Dunkin investigations into the aetiology and prophylaxis of canine distemper.

He also serves his profession in the capacity of a member of the Council of the Royal College of Veterinary Surgeons and on this Council, and I think it is no secret that he could be President of this Association when and if he would. Therefore I have very great pleasure in handing to Major Dunkin the medal which goes with this cup, and I am sure you will wish Major Dunkin a safe custody of this cup during the next twelve months. (Applause.)

Major Dunkin, replying, said: I hope that in addition to your congratulations and good wishes, for that is the way I interpret the applause that has greeted the President's speech, I also have your sympathy because I assure you I shall need it. I must decline, in the first instance, if the President will allow me, to accept much of what he has said, and particularly all that he inferred. Our knowledge of the President's well-merited reputation for veracity, it seems to me, has received this afternoon a very severe jolt, and it is also to me somewhat of a blow to learn that the recommendations of the Selection Committee require justification. (Laughter.) The President's kindness and the kindly remarks which he was good enough to pass have indeed tended to tone down, as it were, the embarrassment I might otherwise have felt.

The Dalrymple-Champneys award, which, if my memory serves me correctly, *may* be awarded every year, has been made possible by the generosity of the donors whose name it bears, and Sir Weldon on an occasion when we were talking on this matter, expressed the hope that it would serve as the first of a series of gifts from other interested persons, and so, also, serve as a basis for a collection of plate of which this "National" might be very proud. I am quite sure that is the hope of all of us. (Hear, hear.) I think I have said enough, Sir, ladies and gentlemen, to indicate how highly I regard this honour, and I need not add that I shall jealously guard the implied confidence you have given me.

Finally, I must of course express my gratitude to Sir Weldon and Lady Dalrymple-Champneys, the donors; to the Division who were good enough to make the nomination and in whose territory we now are; to the Selection Committee; to you, ladies and gentlemen, for your generous acceptance of the President's remarks, and to you, Sir, for the way in which you have referred to the little I have been privileged to do both at my bench in the laboratory and in the field. (Applause.)

MEETING PLACE FOR 1937

The President: The next business is to discuss the meeting place for 1937. Your Council have just met and have recommendations to make.

The Secretary: The place of Annual Meeting for 1937 was considered by the Council. Invitations were received from Bournemouth, supported by Mr. E. P. Edwards; Buxton; Cardiff, supported by the Mid-West Division; and Hove, supported by the Sussex Veterinary Society, together with a letter from the Malvern Development Association. After discussion it was unanimously agreed to recommend that the Annual Meeting of 1937 be held at Hove.

Voices: No, Sir. Not unanimous.

The Secretary: I apologise for that mistake. It arose because certain preparations had to be made for this meeting. (Laughter.) With your permission I will read the minute: "After discussion it was agreed to recommend that the Annual Meeting of 1937 be held at Hove."

Professor W. Mitchell: I understand there is some division of opinion as to the best part of England to hold our Conference next year. In order to test the feeling of the meeting, I would like to suggest instead of going to a place near London we go a little further away and go to Bournemouth. There are attractions at both places and it is only about three or four years since we were in that part of England to which it is suggested we go now. We would like a change.

Mr. Donald Campbell: I beg to second.

Mr. A. Gofton: I move the recommendation of the Council to go to Hove be accepted.

Mr. Scott Dunn: If you come to Hove you will never have a better time in your lives.

The Chairman: I will take a vote on the amendment—Bournemouth. Members only are entitled to vote.

Mr. A. Douglas: Have you an official invitation from the Corporation of Bournemouth?

The President: Yes. Those in favour of Bournemouth. . . . I declare the amendment for Bournemouth carried, and that Bournemouth be the place of meeting in 1937. I put it forward as a substantive motion that the next Congress in 1937 be held at Bournemouth. The Ayes have it.

Election of President and President-Elect

The Secretary: The retiring President, Captain J. R. Barker, proposed the nomination of Mr. R. Simpson, of Carlisle, for election as President of the Association for the year 1936-7. This was seconded by Mr. H. W. Steele Bodger, and it was unanimously agreed to recommend to the Annual General Meeting accordingly. (Applause.)

On the proposition of the President, seconded by Major Rabagliati (proceeded the Secretary), the Council unanimously agreed to recommend that Captain Donald Campbell be nominated as President-elect. (Applause.)

[*The proceedings were adjourned for ten minutes, and were resumed with only members present.*]

The President: Just before we adjourned you heard a recommendation read to you from the Council which I now formally put to you, that Captain R. Simpson be your President for the year 1936-37. All those in favour.—Carried. (Loud applause.)

Captain Simpson: I am glad of the opportunity of just being able to say how very much I appreciate the honour you have just done me. I have had considerable diffidence in accepting nomination, because I know a high responsibility attaches to the office. But I felt impelled to accept the duties and responsibilities and do my duty to the Association, of which I have been a member for many years, and whose interests I have so very much at heart. Thank you very much indeed for having elected me. (Applause.)

The President: You also heard the recommendation for the office of President-elect for 1936-37, and I put it to you that Mr. Donald Campbell be elected to the office of President-elect for 1936-37. All in favour.—Carried. (Loud applause.)

Mr. Donald Campbell: It is a very great honour indeed that you have conferred on me; one that, in the circumstances, I am afraid is all too undeserved. I can only now, at any rate, do my best to deserve it, and at the moment thank you very much indeed.

ANNUAL REPORT AND BALANCE-SHEET

The next business was the presentation of the Annual Report and Balance-sheet.

The Secretary: The Annual Report for 1935-36 and the Accounts of the Association for the year ended December 31st, 1935, were approved by Council for presentation to the Annual General Meeting.

Continuing, the Secretary read the auditors' certificate.

The President: You have heard the auditors' report. Is it your pleasure that the Annual Report and Balance-sheet be adopted? All those in favour. [Carried unanimously.]

ELECTION OF OTHER OFFICERS

Vice-Presidents.—The Secretary: It was resolved to recommend to the Annual General Meeting that the Vice-Presidents be as follows: England and Wales (North), Major D. S. Rabagliati; England and Wales (South), Captain S. J. Motton; Scotland, Captain Gillmor; Ireland, Mr. J. Ewing Johnston.

The President: You have heard those names. I put it to you they be elected for the coming year. The meeting expressed assent.

Hon. Treasurer.—The Secretary: It was unanimously agreed to recommend that Captain W. G. Wragg be elected to the office of Hon. Treasurer. (Applause.)

The President: I put it to you that Captain Wragg be so appointed. [Carried unanimously.]

Hon. Secretary.—The Secretary: For the office of Hon. Secretary the Council unanimously recommended the re-election of Captain J. R. Rider. (Applause.)

The President: I put it to you that Captain Rider be appointed. [Carried unanimously.]

Secretary.—The Secretary: On the proposition of the President it was agreed to recommend that Mr. F. Knight be re-elected General Secretary for the ensuing year. (Applause.)

The President: Again, gentlemen, I formally put it to you that Mr. Knight be elected Secretary. [Carried unanimously.]

Auditors.—The Secretary: The Council unanimously resolved to recommend that Messrs. Fairbairn, Wingfield & Wykes be re-elected the Association's auditors.

The President: I put it to you that this recommendation be adopted. [Agreed.]

OTHER MATTERS REFERRED FROM COUNCIL

The Secretary read the Council's recommendation concerning a member who had accepted an appointment at a salary below the Association's scale. This recommendation was adopted.

The Secretary: At their meeting this afternoon the Council of the Association resolved to

recommend to the Annual Meeting that with effect from January 1st, 1937, there be reduced membership subscriptions for new graduates, namely: For those graduating in July and applying immediately for membership, 10s. 6d. for the remainder of the year, and one guinea for the following year, the full subscription of two guineas becoming payable in the next subsequent year; for those qualifying in December and applying immediately, one guinea for the first year, the full subscription of two guineas becoming payable in the subsequent year.

The President: You have heard the resolution. Are there any against? I put it to you that the resolution as read be adopted. [Carried.]

The President: Any other matters that may properly be considered at the ordinary Annual General Meeting. . . . If there are no such matters, I think we should adjourn until Friday, September 18th, at 3 p.m., and I declare the meeting so adjourned.

"At Ease" at Last
(Mr. J. O. Powley, Chairman, Local Committee)

THE PERMEABILITY OF THE SKIN

"What can or cannot pass through the skin is not merely a matter of academic interest; it is important from the points of view of toxicology, balneology, and industrial medicine," states *The Lancet* of September 12th, and continues: "Professor Emil Bürgi, of Berne, has been investigating* the skin's permeability to various substances. Penetration of the skin by liquids or solids that are subsequently excreted in the urine is easily measurable, but with gaseous or volatile substances the problem is more difficult. By means of a simple but ingenious apparatus consisting of a glass hemisphere closely applied and sealed to the skin with vaseline, wax, or gelatin, and furnished with two pipes through which the vessel can be filled or emptied at will, Bürgi has been able to measure indirectly but accurately the quantity of various gases absorbed by the skin. Thus he has found that, up to a point, the percentage absorption of CO_2 increases with the concentration of the gas in the apparatus, but beyond that point it diminishes. Similar results were obtained with H_2S except that concentrations of more than 0·2 per cent. of this gas were apt to provoke an inflammatory reaction in the skin, which diminished its permeability. Ammonia was found to penetrate the skin almost as easily as CO_2, but CO, being relatively insoluble in water, did not penetrate at all. The presence of mineral salts in solution, such as sodium chloride and sulphate, was found to hinder the absorption of CO_2. Nor was CO_2 from the blood excreted by the skin if the apparatus contained a 25 per cent. solution of common salt. Satisfied that the chlorides of sodium and calcium only penetrated the skin with difficulty, Dr. Bürgi, with the help of Dr. Beck, found that a 10 to 27 per cent. solution of sodium chloride or iodide was necessary before penetration could occur. A concentration of 10 per cent. of sodium chloride is often present in saline baths, but iodide baths never contain iodine in sufficient concentration for it to pass through a normal skin. The curative effect of CO_2 baths is due to their vasodilator action, and Bürgi concludes therefore that they are undesirable in heart disease, though he recommends their use in cases of arterial spasm and arterio-sclerosis. Sulphur baths, allowing the passage of H_2S through the skin, may be useful, he thinks, not only in chronic rheumatism, but also in diabetes and various skin diseases, such as furunculosis, psoriasis, acne, and eczema.

"A second group of experiments, concerning more toxic substances, was carried out on rabbits. Attempts to produce chloroform narcosis in these animals through the shaved skin did not succeed, although the presence of chloroform was demonstrated in the expired air. Similar results were obtained with ether and carbon disulphide. Using tetrachlorethane, total anaesthesia was regularly induced in about 20 to 25 minutes, and it was found possible to kill rabbits by passing trichlorethane, hexachlorethane, and ethylene iodide through the skin. Numerous experiments convinced Bürgi that only those narcotic liquids that have a boiling-point higher than 80° C. can be made to penetrate the skin in sufficient quantity to bring about anaesthesia or death in the experimental animal. Those with a lower boiling point are too rapidly eliminated in the breath ever to get into the blood or central nervous system. Many of these substances, notably tetrachlorethane, are used in industry so that these conclusions are of toxicological interest. Two other important substances to which the skin was found to be permeable were camphor and mercury. Grey ointment, which contains pure mercury, was found to penetrate more easily than white precipitate, which contains mercury in the form of Hg ($ClNH_2$). Corrosive sublimate in 1 in 1,000 solution penetrated very little, and in 1 in 100 solution not at all."

*Bruxelles-Médical. August 2nd. p. 1481.

Demonstrations and Operations Section

It will be generally conceded that it is but a just tribute to the personality of the man himself and to his contribution—and in no way a reflection on other participators in a phenomenally successful event—to describe the address and demonstration given on the Thursday afternoon by Professor Nils Lagerlöf, of Stockholm, on the subject of "Sterility in Bulls" as that feature for which the N.V.M.A. Congress of 1936 will chiefly be remembered. We seek no further justification, therefore, for giving pride of place in this section to what was fittingly described by Principal Craig, in expressing to Professor Lagerlöf, at the closing meeting, the indebtedness of the "National" for his "remarkably fine address and wonderful demonstration," as the most notable event during the week.

Quite apart from this outstanding item, however, much credit is due to the Provisional Committee for making a special effort to provide a programme of operations and demonstrations such as would appeal to the members as worthy of the Annual Conference of the N.V.M.A. In the achievement of this aim they were most ably "aided and abetted" by Captain W. W. Lang, M.R.C.V.S., of Brigg, and Captain A. H. Watson, M.R.C.V.S., of Bradford, who, at the request of an over-worked Local Secretary, forthwith took charge of the arrangements which culminated in a fine display at the Corporation Depôt in Dean Road—impressively partitioned into "Theatres Nos. 1, 2 and 3." In this connection, too, the Association are deeply indebted to Mr. H. W. Good, M.R.C.V.S., of Scarborough, and Mr. A. J. E. Johnston, M.R.C.V.S., his assistant, for arranging with the Corporation for the provision of this accommodation and for invaluable help rendered to the operators and demonstrators.

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STERILITY IN BULLS

Address and Demonstration by Professor Nils Lagerlöf, Veterinary College, Stockholm, Sweden*

There was a crowded attendance at the Public Library, Scarborough, on the morning of Thursday, September 17th, 1936, for the session of Congress, N.V.M.A., at which Professor Nils Lagerlöf gave the above eagerly anticipated address and demonstration, the excellent slides and other illustrations being projected by means of the epidiascope.

The chair was occupied by the President of the Association, Captain J. R. Barker—a personal friend of the demonstrator and who was instrumental in securing for Congress this outstanding feature of the programme.

Introducing Professor Lagerlöf, the President said: The Association is highly honoured in having an address presented by Professor Nils Lagerlöf, of the Royal Veterinary School, Stockholm. Those of us who take an interest in international veterinary affairs can recognise in him a leader, a world leader, in this particular subject. He has published literature not in his own language only, but in the German language and in the English language. The book which he has written upon this subject will, I think, be referred to as a classic on the sterility of bulls. He also produced a book on the anatomy of the cow; and when I was over in Stockholm last October on your behalf I had the pleasure of meeting Professor Lagerlöf and his family, and had the opportunity of going round his bovine clinic, and visiting farms which are attached to the Swedish Veterinary College. I was very much impressed at the opportunity which has been afforded by the Swedish authority to a man of the capabilities of Professor Nils Lagerlöf. They have 700 veterinary surgeons, 600 State veterinary officers, and each is given a district. There was a chief veterinary officer in charge of the State Veterinary Service, a State bacteriologist in charge of the bacteriological work. Then there are the canine clinic, the equine clinic, and the bovine clinic. Of course, you would know that I would be particularly interested in the bovine clinic. There was the opportunity there for teaching experimental research and the actual doing of private practice by one and the same person—which, so far as I am aware, is a unique opportunity of which Professor Lagerlöf has availed himself.

I propose to ask him to read his contribution, and we will allow him the liberty of cutting particular parts, since each member should have a copy. If any member wishes to write a question that he would like Professor Lagerlöf to answer, that would be the best way of dealing with the discussion in the limited time we have. This is not a paper; it is an address.

I ask you to accord Professor Nils Lagerlöf all the attention possible. (Applause.)

PROFESSOR LAGERLÖF'S ADDRESS

(Full text.)

Wherever cattle breeding is actively carried on, a great deal of loss is caused by sterility. When a bull has to serve a large number of cows, disturbances in the fertility of the bull cause disturbances in the periodicity of calvings of a number of cows; dry periods become prolonged so much that from an economic point of view it is often not worth while to retain them for breeding. It is there-

*N.V.M.A. Congress, Scarborough, 1936. Address and Demonstration given in the Public Library, Scarborough, September 17th, 1936.

fore of the utmost importance to discover as early as possible bulls with diminished or absence of fertility so that steps may be taken either to prevent their being used for breeding or to discard them before they cause serious losses.

As regards the occurrence of sterility in bulls, it seems that it has been considered to be of rare occurrence. W. L. Williams has, however, shown in America that sterility often occurs in bulls, and he states that: ". . . speaking in percentages he is probably as great an offender as the cow. In other words, probably as large a proportion of bulls as of cows go to slaughter on account of sterility or low fertility." I myself have investigated the causes of early disposal of bulls in the Swedish Bull Societies during a five-year period. The investigation covers 2,313 bulls. Of these about 38-39 per cent. were discarded because there was a desire to avoid inbreeding, 13-14 per cent. on account of disease (sterility not included), about 11 per cent. because with increasing age the bulls became too big and heavy for the cows. In about 12-13 per cent. the cause is not stated, and about 24 per cent., finally, seem to have been discarded by reason of sterility in one form or another. From these investigations, it seems obvious that the number of cases of incapacity to copulate surpasses the number of those which are due to incapacity to fertilise. To a certain degree this may be due to the first-mentioned form becoming manifest, whereas diminished or an absence of the capacity to fertilise, which mostly is due to disturbances in spermatogenesis, is often overlooked, and may be difficult to diagnose on making a clinical examination.

[*J. F. Seaman, Scarborough.*

Professor Nils Lagerlöf

Royal Veterinary School, Stockholm

Since the tendencies for disturbances in the reproductive function are probably partly due to heredity, we might—in so far as Sweden is concerned, have reason to fear that with the type of breeding which is being carried on there (very pronounced inbreeding without necessary regard to the fertility of the ancestors), sterility both in male and female cattle will tend rather to increase than to decrease.

We are able to distinguish three main forms of sterility in bulls:—

(1) Sexual desire is non-existent;
(2) Incapacity to copulate (*Impotencia coeundi*); and
(3) Incapacity to fertilise (*Impotencia generandi*).

We meet the first form occasionally in young bulls, when they are first put into service; not infrequently it happens that such bulls, to start with, are ignorant of what is expected from them; they play with the cow instead of taking an interest in her oestrus. In the majority of such cases sexual desire may be aroused either by suitable guidance in mating or by treatment with some suitable aphrodisiac (yohimbine, cantharis), and the bull will become quite fit for breeding. Absence of, or diminished, sexual desire may also be due to over-exertion, or may follow upon impotence to copulate, where pain is felt every time the bull mounts the cow. One also sees examples of bulls which become confirmed onanists, taking no notice of cows. Older bulls often become creatures of habit, and we have seen more than one example where sexual desire is lost altogether when a bull is moved from one farm to another, or if it is treated in a manner other than that to which it has been accustomed. For example, a bull may refuse to cover cows of any colour other than that to which it has previously been accustomed. We must therefore not ignore the fact that in some instances a psychic influence may play its part.

Incapacity to copulate is the form of sterility

where the bull, in spite of attempts, does not succeed in carrying out the act of coitus. The causes are many and sometimes impossible to determine. Amongst the most important of these may be mentioned weakness occasioned by sexual over-exertion or enervating feeding. Through lack of exercise in conjunction with too rich or too bulky food the bull may grow fat, heavy, clumsy or big-bellied, whereby the markedly pendent or "pot-belly" acts as a mechanical obstruction and causes the penis to be directed too low. Morbid changes in the skeleton, joints, muscles, sinews, hooves or peritoneum (traumatic inflammation of the stomach and diaphragm) may cause pain when the bull mounts the cow, and thus impede or make impossible the act. Morbid changes in the genital organs—mostly inflammatory changes in the prepuce or penis—often entail pain when erection of the penis occurs. Clipping of the tuft of hair around the preputial orifice, which in some parts is often carried out, readily results in the prickly stubble of growing hair, causing minor lesions of the penis. Some authors (W. L. Williams and others) emphasise the fact that inflammatory processes in the testicles and accessory genital glands may often cause incapacity to copulate. This does not seem to me to be the case. I have noticed in several cases of acute orchitis, caused by *Brucella abortus*, where one testicle was very much swollen and tender, that the bulls performed the act of mating faultlessly, and I have made the same observations repeatedly in cases of acute inflammation of the seminal vesicles.

Of particular interest is the form of incapacity to copulate which occurs relatively often—at least, in Sweden—in young pedigree bulls, after these have been in service for some time. As a rule, these bulls, at least to start with, have a keen sexual desire and very readily mount the cow. They are, however, unable to rise properly on the hind legs, or to bend the back, so that the penis fails to reach the cow's vulva, or cannot be protruded sufficiently far to enable coitus to occur. Often these two symptoms seem to be combined. Forssell and also Götze have in these cases tried a resection of the retractor penis muscle, but without convincing results. The causes of this form of impotence in young bulls are certainly of several kinds; Forssell has demonstrated that arthritis in the iliosacral joint may in some instances be responsible. In some cases where no morbid process can be shown as an obstacle to the protrusion of the penis, it seems to me probable that as a contributory cause we must consider the imperfect erection of the penis to be due to nervous disturbance, perhaps caused by over-exertion of a sexually weak individual. It is not known to what extent disturbances in the internal secretions may contribute towards this form of impotence, but very probably modern hormone research will, within the near future, contribute towards a solution of these questions.

As regards *incapacity to fertilise*, this is characterised by the fact that pregnancy does not result, although the bull performs coitus in a normal manner. Such a bull may do a great deal of harm, since many months may pass before the owner discovers that the bull is unfit for breeding.

When one discusses with a farmer the possible causes of sterility in his herd and asks him whether it is not likely that something may be wrong with the bull or with a particular bull, if he has several, one mostly gets the answer that there is no risk of that, since there are several calves as the progeny of the bull in question. In the farmer's mind there are usually only two possibilities; either the bull is sterile or he is normally fertile, a third possibility does not occur to him as a rule. In reality, however, the fact of the matter is that all stages of transition exist in respect of male animals, from high-grade fertility to sterility. As regards bulls for breeding purposes, from a fertility point of view they may be divided into the following groups: Good, less good, poor, and altogether sterile. It is only by summarising month after month the information obtained from all matings of the bull and their results that one can get some idea of the state of fertility of that bull during a particular period. In this connection, it is advisable to count how many copulations have on an average been required for every conception.

Incapacity to fertilise depends upon an insufficient number of functional spermatozoa passing off with ejaculate, and this in its turn may be caused by morbid changes or functional disturbances in the testicles, epididymis, deferent ducts, or in the accessory genital glands.

Disturbances in spermatogenesis occur chiefly in association with the following conditions:—

(1) Testicular hypoplasia;
(2) Degenerative changes in the epithelium of the seminiferous tubules;
(3) Inflammatory changes in testicle or epididymis.

As regards testicular hypoplasia, *i.e.*, poor development of the testicles, this is a fairly common cause of sterility in bulls. Such bulls are usually aspermatic, but have a fully-developed normal sexual desire; in other cases certain portions of the testicles are developed in such a way that spermatozoa may develop, but these are fewer in number than is normal. In a polled breed of cattle in Sweden (a Highland breed) a widespread hereditary form of testicular hypoplasia occurs. In this breed the left testicle is, as a rule, hypoplastic, while the

right one generally is normally developed. This form of hypoplasia occurs in approximately 25 per cent. of all the males of the breed. In the cows there occurs at the same time a hypoplasia of the left ovary, likewise to the extent of about 25 per cent.

The commonest cause of disturbance in spermatogenesis is the occurrence of degenerative changes in the epithelium of the seminiferous tubules. Such degeneration may occur through a multitude of causes, some of them unknown. In this connection we have to think of hormonal disturbances, of toxic influence or thermic action, *e.g.*, in cases of fever. Hardly any other organ seems to react so rapidly as the testicles, as the result of detrimental internal or external influences. It is possible that psychic influence also may play a certain part, *e.g.*, we can sometimes see how old bulls, who have accustomed themselves to certain surroundings, become sterile. Sometimes this is only temporary, on being removed elsewhere; it is sometimes due to their not feeling at home or comfortable in their new quarters.

I wish to point out in this connection that it is remarkably easy experimentally to bring about testicular degeneration by putting an insulating cover on the testicles, which interferes with the normal heat regulating function of the scrotum. Such insulation is required only for a few days to make a bull sterile. After a few months, however, regeneration of the epithelium of the seminiferous tubules occurs and normal spermatozoa formation recommences.

With minor degenerations of the epithelium normal numbers of spermatozoa may still be developed, but the spermatozoa become more or less degenerate and incapable of fertilisation. With more advanced degeneration only a small number of spermatozoa are formed, and finally, with severe degeneration, all spermatozoa production may cease.

Inflammatory changes in the testicles and epididymis are practically always caused by infection, *e.g.*, with *Brucella abortus*, *Bac. pyogenes* and tubercle bacilli. These inflammatory processes may affect the entire organ or only a minor portion of it. The commonest and most typical orchitis in bulls is caused by *Brucella abortus*. It occurs in most instances in a very acute form. The bull shows fever, high temperature and feeds badly. The infected testicle swells greatly and cannot be moved up and down in the scrotum in the normal manner. The bull, as a rule, performs the act of copulation without hesitation. If the infected testicle is left untouched, the high temperature remains for some time, and after about a fortnight there are no spermatozoa, or only very few, in the ejaculate, though one of the testicles is intact. This is undoubtedly due to the scrotum no longer being able to perform its heat regulating function, owing to the inflammatory changes occurring within it. The testicle that is not affected by the inflammation undergoes degenerative changes and loses its capacity to form spermatozoa. If, however, the infected testicle is removed immediately at the beginning of the disease, it is generally possible to save the sound testicle and preserve the bull's capacity for breeding. As a testicle which has been subjected to acute inflammation practically never will produce fertile spermatozoa, there is not the slightest reason for delaying unilateral castration. A bull which has suffered from Brucella infection must, as a matter of course, only be used for herds infected by the disease.

In cases of both degenerative and inflammatory changes of the testicles an increase in the interstitial connective tissue, which leads to testicular fibrosis, may result.

Morbid changes in the accessory sexual glands may give rise to sterility. As a rule, the condition is one of inflammatory changes with formation of abscesses in one or both seminal vesicles frequently caused by *Brucella abortus*, tuberculosis, pyogenic organisms or streptococci. Such changes may in many cases be overlooked in a clinical examination, but although of late years I have examined all suspected animals rectally, I have only in comparatively few cases been able to determine them. As a rule, we find in these cases purulent flocculi or lumps in the semen. Nevertheless, this condition must be the subject of further research.

Clinical Examination of the Sexual Organs and Semen of Animals

When it becomes necessary to judge the fertility of a bull, it is often possible to draw certain conclusions from an examination of the results of his previous services; this is the very best basis for judgment, provided the cows which he has been serving are sexually healthy and sound. Nevertheless, this is often not possible, particularly with young untried bulls that are to be sold, and it then becomes a question whether, with the aid of clinical examination, it is possible to judge of a bull's fertility. This is to a certain degree possible, and an examination of the bull's semen is of the greatest importance.

An enquiry into the fertility should, of course, not be restricted merely to examination of the semen, but should always be combined with a clinical examination, first and foremost of the testicles and epididymis, and an internal examination through the rectum of the ampullae of the vasa deferentia, the seminal vesicles and the small part of the prostate which is palpable. The ability to judge what is normal or abnormal can only be acquired by

1 2 3 4 5

Fig. 1.—Semen samples of different kinds. 1. Semen with normal appearance, about 1,000,000 spermatozoa per cub. m.m. 2-3. Semen from a bull with hypoplastic testicles. Sample 2 contains about 200,000 spermatozoa per cub. m.m. Sample 3, which is almost transparent, contains about 25,000 spermatozoa per cub. m.m. 4-5. Semen from a bull with inflammation in the seminal vesicles. In the semen, which is almost transparent, there are big, purulent flocci.

training, and I believe that it is wise in every examination into the breeding performances of a herd of cows to make it a practice also to examine the genital organs of the bull.

Semen Examination

Under normal conditions the bull ejaculates 2 to 8 mls. of semen of a fairly thin consistency, with a white or greyish-white colour. In the bull, the colour of the semen depends practically only upon the concentration of the spermatozoa; the greater the number of spermatozoa for a given volume, the whiter is the semen. In the case of complete absence of spermatozoa, the semen is, as a rule, almost as clear as water, occasionally with a tinge of yellow. In some odd instances one finds in bulls that other cells than spermatozoa may make the semen opaque, *viz.*, giant cells which in the case of certain degenerative conditions of the testicles may be produced so copiously that they pass through the epididymis. The semen may also be mixed with blood, which as a rules comes from the vagina from injuries in sampling. Occasionally one can also in the semen observe big, yellow, purulent flocculi, which may come from purulent inflammations in the seminal vesicles (Fig. 1). In some instances, tough, viscous semen may indicate catarrhal conditions in the accessory genital glands.

The number of spermatozoa per unit volume varies greatly in the different domestic animals. In the stallion, boar and dog we find values of between 50,000 to 150,000 per c.mm.; in the bull the number of spermatozoa varies under physiological conditions between 300,000 and 1,200,000 per c.mm., with an average of approximately 800,000 spermatozoa per c.mm. A large number of spermatozoa per unit volume in an ejaculate may be due to the animal not having a discharge of semen for a long time, whereas an uncommonly low number of spermatozoa in a sexually healthy animal may be due to repeated ejaculation during a short space of time, either by the male having been used far too much for breeding or through masturbation. The commonest cause of disturbances in the number of spermatozoa is, however, morbid changes in the testicles.

The motility of the spermatozoa is a necessary physiological condition for fertilisation. Since early times there seems to have been a tendency to correlate the motility of the spermatozoa and the fertilising capacity. But research work of late years has shown that we must not set up the motility observed under the microscope as a criterion of the capacity for fertilisation (Williams, W. W., Williams and Savage, Moench, Mason and others). Arrested or diminished motility of the spermatozoa is certainly of importance, but it may be accorded of decisive importance only when repeated examinations of recently-ejaculated semen show the same result. A spermatozoon which under certain conditions shows impaired motility, need not always be a worthless cell. In the testicle the spermatozoa are, as a rule, immotile, and in the ejaculated semen a spermatozoon, though capable of fertilisation, may be in a state of inertia. On the other hand, the circumstance that a spermatozoon shows good motility does not mean that it has a normal capacity for

fertilisation. As in eggs, with increasing age the possibilities of fertilisation diminish, in the same way the capacity for fertilisation by spermatozoa gradually decreases as they grow older, so that finally they may be worthless from a fertility point of view, although they are motile.

In examinations of semen one must, in order to be able to pass a male animal, set up a standard of good motility in the spermatozoa, but high motility does not constitute any guarantee that the spermatozoa are capable of fertilisation. If the semen is kept at body temperature, the spermatozoa die as a rule rather quickly, whereas they can keep their motility for several days if they are kept at a temperature of +3-4°C. On examination under the microscope the spermatozoa show firstly a forward motility, when they move more or less rapidly forward in the field of vision, and secondly a pendulum movement, when their tails make to and fro movements, which are not sufficiently strong to bring about any forward movement of the spermatozoa. In newly-ejaculated semen from bulls with good fertility the majority of spermatozoa as a rule show lively, forward motility. When the spermatozoon dies it sometimes remains lying on its side, for which reason the head then appears as a dark, narrow, elongated formation.

Pathological or Abnormal Spermatozoa.—For quite a long time several investigators have demonstrated that in normal semen from healthy human beings and animals there are often met spermatozoa which in respect of their size and shape differ from the normal. Broman, as long ago as 1900, demonstrated the occurrence of pathological spermatozoa in man. Williams, W. W. (1920), and Lagerlöf (1934) have thoroughly investigated the occurrence of pathological spermatozoa in bulls with diminished or arrested fertility, and Lagerlöf has, by experimental research shown that the occurrence of pathological spermatozoa is connected with disturbances in spermatogenesis as the result of changes in the epithelium of the seminiferous tubules. Such a disturbance in spermatogenesis occurs as a rule with deficient development of the testicles, but the commonest cause is a degenerative or inflammatory process in the testicular parenchyma.

Different Types of Pathological Spermatozoa.

(1) Spermatozoa which differ from the normal ones in size;

(2) Spermatozoa with two heads or two tails;

(3) Spermatozoa with abnormal shape of the head;

(4) Spermatozoa with abnormalities on the connecting piece or tail;

(5) Deficient staining capacity of spermatozoa;

(6) Loose heads of spermatozoa.

Big spermatozoa (giant spermatozoa) occur rather seldom in the semen of domestic animals and do not seem to play any appreciable part in comparison with other abnormal forms. Dwarf or pigmy spermatozoa may be of normal form, but in the majority of cases the basal portion of the head tapers very much. Such spermatozoa occur fairly often in bull semen. Changes of form in the spermatozoa mostly affect the head, more rarely the tail. The rule is that it is mostly the posterior portion of the head which undergoes the greatest change of form. One can distinguish a general tapering of the entire head and a tapering of the basal portion of the spermatozoon, which may often be so very much constricted that it assumes the shape of a pear. Changes in the shape of the tail seem to be relatively uncommon, and the rule is, that if the head is normal, the tail is also normal. Occasionally it happens, however, that there are ragged connecting pieces. The tail may also be bent or coiled to a greater or lesser degree. A slight bending of the tail, so that it lies like the handle of a walking stick, one can see relatively often in the live spermatozoa. Such a change appears to be due to external influences in sampling, *e.g.*, if the semen becomes mixed with water, by which the osmotic pressure of the medium has been altered. A very much coiled tail, on the other hand, indicates that the spermatozoon was dead on being ejaculated. Loose sperm heads may occur through carelessness in preparing the material for smearing on the slide. Often the loose heads are deformed, which indicates a disturbance of the spermatogenesis. Relatively often spermatozoa are met with which do not stain in a normal way, as they are either stained too strongly or too faintly. Spermatozoa of the latter type occur occasionally plentifully and are, as a rule, dead at ejaculation.

Pathological spermatozoa occur also to a certain extent in bulls with good fertility, and it seems to be obvious from Williams', Savage's and Lagerlöf's research that in normal bulls an average of 10 to 12 per cent. of the spermatozoa are pathologically changed. As a rule, the number of pathological spermatozoa in a bull with good fertility does not exceed 17 to 18 per cent. As regards other males, the results of no thorough researches into these conditions are available.

The objection may be raised that there is an enormous surplus of spermatozoa. If, by way of example, in an ejaculate of one milliard of spermatozoa 50 per cent. show signs of degeneration and must be looked upon as being unable to impregnate the ovum, there remain yet half-a-milliard of spermatozoa which should be capable of doing so. Of course, it may seem so, but we are, on the other hand,

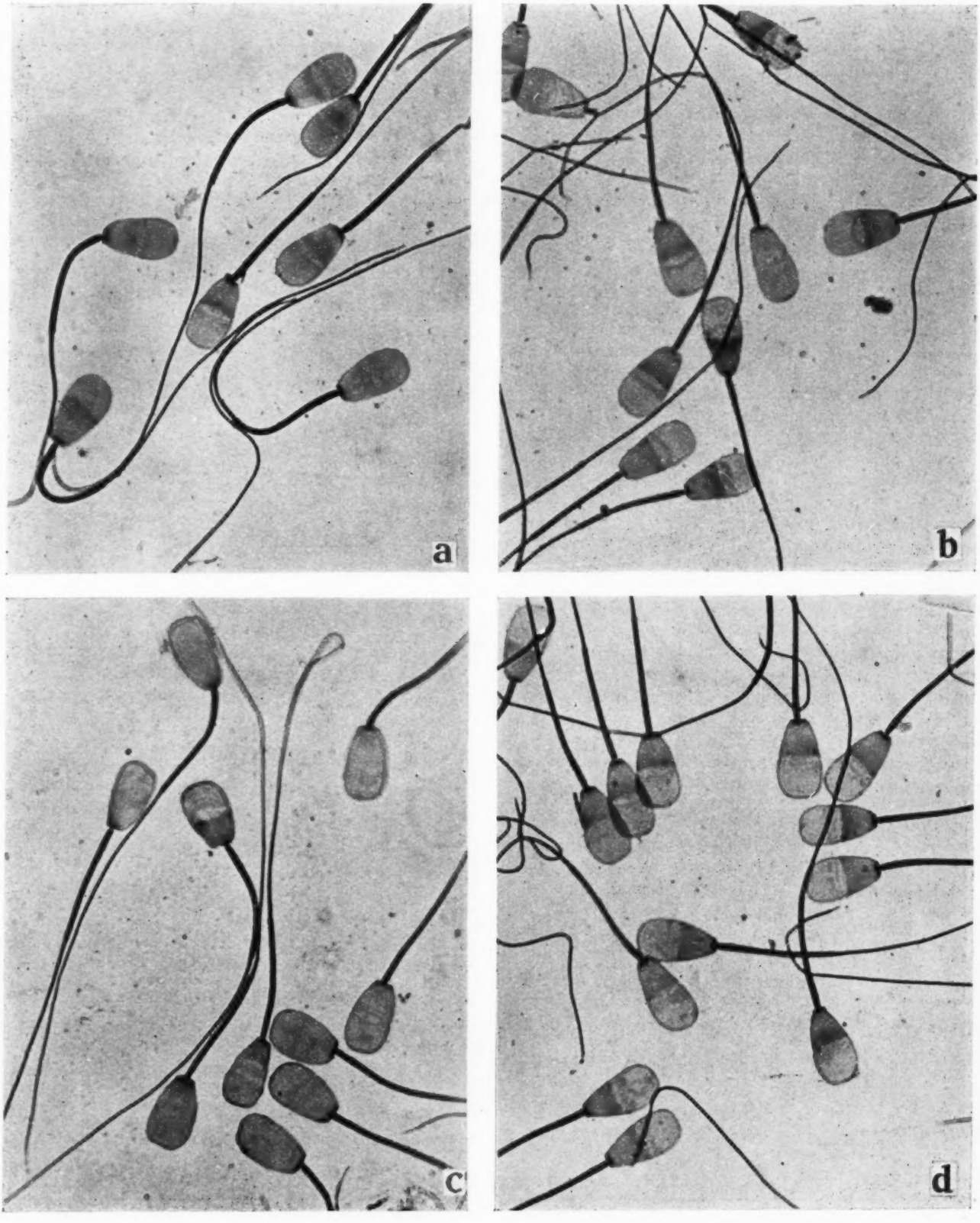

Fig. 2.—Spermatozoa from different bulls with good fertility. The pictures in Figs. 2-4 are microphotos of spermatozoa which have been stained according to Williams' method. 1,000 × enlarged.

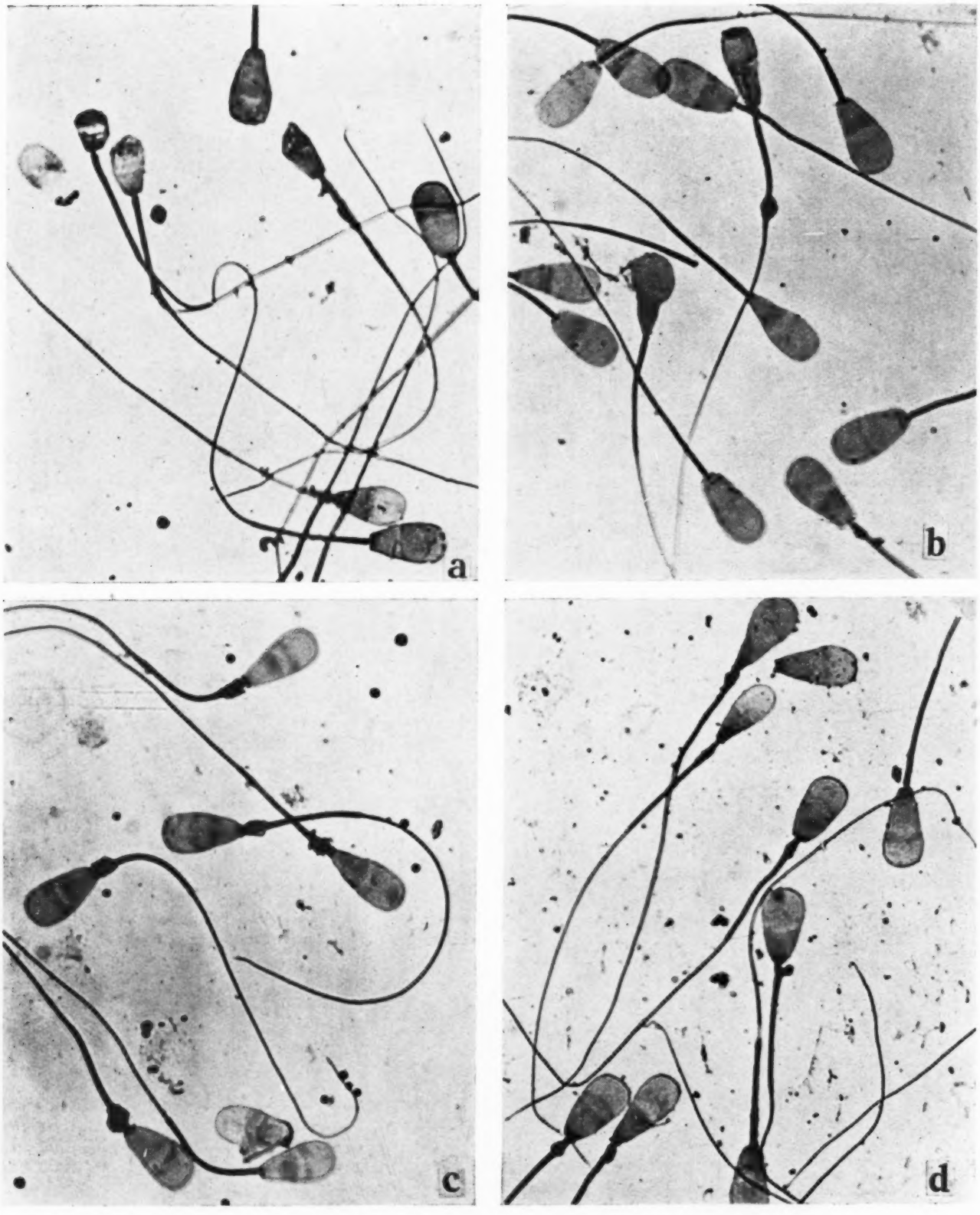

Fig. 3.—Spermatozoa from 4 different bulls with reduced or arrested fertility. Note the changes in the form of the head. In picture c also drops of protoplasm at the neck.

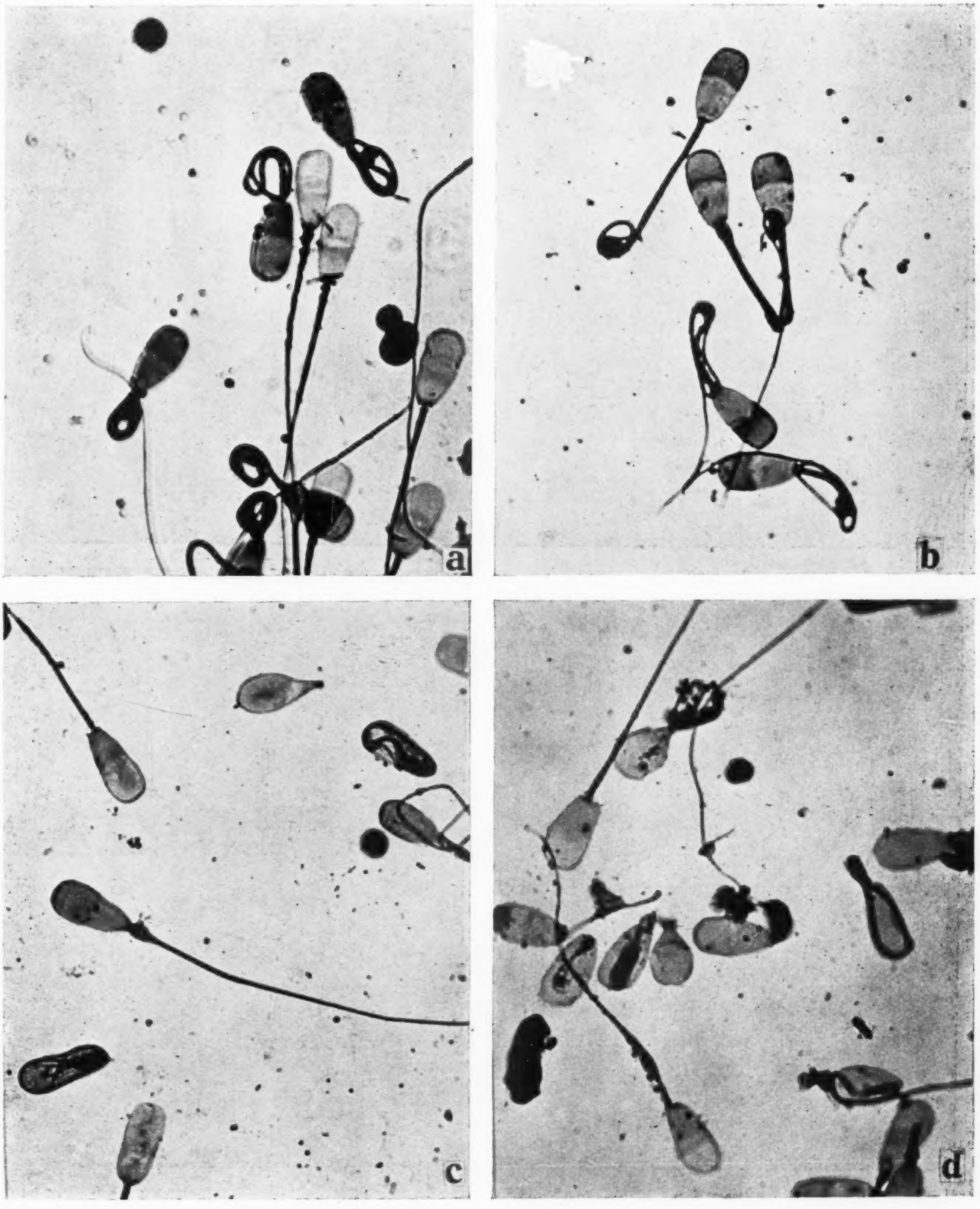

Fig. 4.—Spermatozoa from 3 different bulls. Different types of changes in the tail and disturbance in the staining ability.

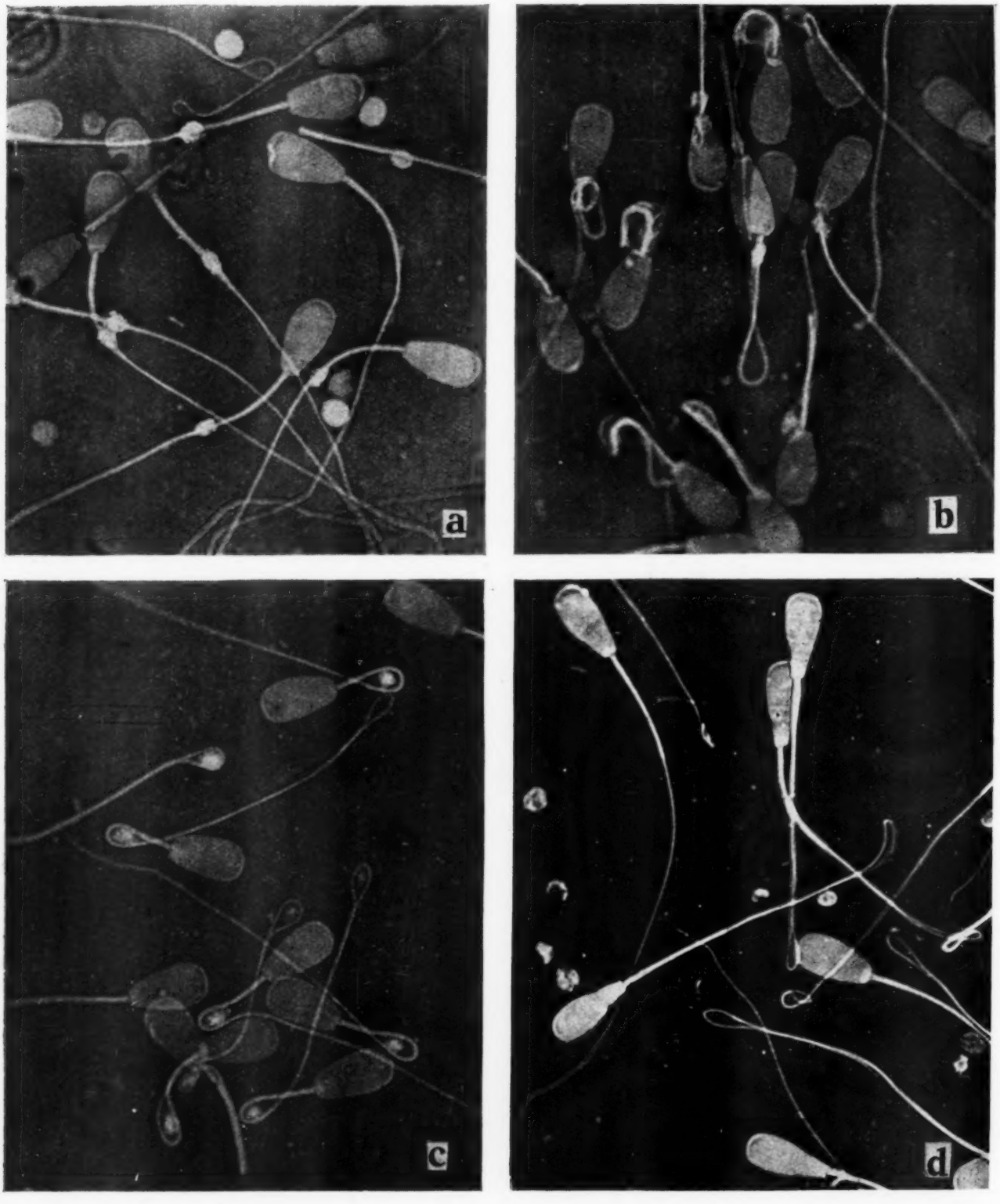

Fig. 5.—Microphoto of spermatozoa from 4 different bulls. Opal-blue fixing. 1,000 × enlarged. In A and B drops of protoplasm at the end of the connecting piece; the light, round formations in A and D are free drops of protoplasm. In picture B the connecting pieces are fibrose; D narrow heads.

entitled to presume that the detrimental agency which has caused the disturbance in the spermatogenesis or brought about degeneration in any of the finished spermatozoa, may also have affected other spermatozoa than those which show actual changes under the microscope. We might, with the greatest probability, be entitled to assume that we can get a functional disturbance in the cell before it is deformed or loses its staining capacity.

Immature Spermatozoa.—When the spermatozoa are finally developed in the seminiferous tubules and pass out into the epididymis, there is practically always found a tiny drop of protoplasm adhering to the spermatozoa. When the spermatozoon is in the head of the epididymis, this drop of protoplasm is attached to the neck of the spermatozoon; on its passage through the long epididymis (in the bull about 30 metres long) the spermatozoon undergoes a ripening process, in which the drop of protoplasm also moves along the connecting piece, so that the drop, when the spermatozoon is in the tail of the epididymis, is attached to the end of the connecting piece. The tail of the epididymis is, in mammals, the store-room for ripe spermatozoa. When these finally are ejaculated the drops of protoplasm have, as a rule, been got rid of. By immature spermatozoa are meant those whose necks on ejaculation are still provided with a drop of protoplasm. The plentiful occurrence of immature spermatozoa in the ejaculate indicates a disturbance in spermatogenesis. Lagerlöf has shown by experimental research that a large number of immature spermatozoa as a rule occur both with a commencing degenerative process in the spermatogenic epithelium and in a regeneration of the same. Drops of adherent protoplasm in the ejaculated spermatozoa may occasionally be met with mostly at the end of the connecting piece, and may be due to the bull having performed too many copulations in a short space of time. They seem also to be symptoms of approaching genital disease, or may indicate that the male has recently passed through a disturbance in the function of the testicles or epididymis.

Conducting Semen Examination

For obtaining samples of semen for examination different methods of collection are available. It is possible:—

(1) To recover the semen after copulation from the vagina of the female (vaginal sample);

(2) To allow the male to copulate into a semen collector or an artificial vagina;

(3) To catch the semen dripping from the penis after coitus when the male descends from the female (drip sample);

(4) To carry out massage of the seminal vesicles.

When the veterinarian in his work has to make an examination of semen in bulls, he is, as a rule, obliged to recover a sample from the vagina or to take a drip-sample from the penis. Neither of these methods can be looked upon as ideal, and it would be desirable that one could always take the entire quantity of semen in a sterile collector or artificial vagina. Such have, up to the present, been relatively expensive and scarcely sufficiently perfected to be recommended for general use. During last year there has been put on the market an artificial vagina for bulls, which is fairly cheap and has been found quite satisfactory. I have, during the spring, made use of it for taking samples of semen from a score of bulls, and it has been found to work surprisingly well. Bulls with normal capacity for copulation mount, as a rule, without any hesitation.

By recovering the ejaculate from the cow's vagina it is possible to get an approximate idea of the quantity of the ejaculate, and to make sure whether the bull has attained orgasm or not. In fact, this is possible only in so far as the bull is concerned, since the bull deposits his semen in the vagina in contradistinction to what is the case with a stallion and boar, where a large portion of the semen is deposited in the uterus. One drawback with this method is, however, that the semen cannot be collected uncontaminated and suitable for biochemical or bacteriological examination. By collecting the semen dripping or spurting from the bull's penis, one obtains purer material, which can be used for bacteriological examination of the material. Nevertheless, the drip-sample in ordinary cases is so small in quantity that it is not sufficient for a thorough semen examination. To this has to be added the circumstance that with this method one cannot judge the quantity of the ejaculate, nor its appearance, and, finally, the drip-sample is not always of the same quality as the bulk of the ejaculate. For mating it is preferable to use a female that is on heat, but even a cow that is not on heat can be used with success. The latter must, however, have a quiet temper. It is important that a female that is being used has no vaginal discharge. Before mating the vulva should be thoroughly washed with soap and water (no disinfectant), after which the vagina is deprived of mucus, either with the hand or, better still, with a suitable vaginal spoon. After the male has performed copulation, the semen is recovered from the vagina with a vaginal spoon or with the hand, whose palm must then be perfectly dry, and transferred into a graduated tube. If the taking of a sample of semen concerns a bull that has not mated for a long time, he should be allowed to mate twice, and the samples should be put into two separate tubes.

After the semen has been obtained, *macroscopic* examination follows in respect of quantity, consistency and appearance. The *microscopic* examination of the sample should be made as soon as possible after taking it, preferably within 15 minutes. The microscope should be set up ready in a light and warm place, since in the examination of the motility of the spermatozoa the temperature of the room must not fall below +15°C. In this examination a couple of drops of undiluted semen are placed on a thoroughly cleansed slide, after which a cover-glass is placed over the specimen so as to prevent drying. In the first instance the motility of the spermatozoa is examined. If the sperms in the first preparation show unsatisfactory motility, a fresh preparation should be examined, and if the ejaculate of the first mating does not give any satisfactory result, the second ejaculate should be examined. The motility of the spermatozoa may be denoted by the terms: Very good, good, less good, poor, absent. Several conditions in taking samples and examination may affect adversely the motility of the spermatozoa. Here may be mentioned dilution of the semen with water or traces of disinfectants, the presence of very tough mucus from the vagina or cervix, or pus or blood from the vagina. In the examination one must, as far as possible, try to avoid the influences of these disturbing factors. The number of spermatozoa is judged in the same preparation and denoted: Very plentiful, plentiful, less plentiful, sparse, solitary sperms, or none.

In a more thorough semen investigation the number of spermatozoa per unit volume should, if possible, be counted. The counting is carried out with Bürker's Haemacytometer, with a dilution of 1:100, or, if the concentration of sperms is low, 1:10. As a diluting fluid, a 2 per cent. KOH solution is used, the dilution pipette being filled to two-thirds, after which the pipette, after being well shaken, is filled with a 1 per cent. methylene blue solution. With this the spermatozoa assume a blue tint and can be easily observed.

Morphological Examination of the Spermatozoa

After examining the motility in a native preparation of the spermatozoa, and their movement gradually having diminished, it is possible—if one has a good microscope—also to note the size and shape of the spermatozoa. The most important thing in this examination is, however, to determine the possible occurrence of drops of protoplasm on the necks of the spermatozoa (immature spermatozoa).

The fixation of preparations of spermatozoa with an opal-blue solution is a method similar to Burri's Indian ink process, where, instead of Indian ink, an opal-blue solution is used. The method is employed in such a way that a small quantity of an opal-blue solution ("Opalblaulösung Bresslau" can be obtained from Dr. Grübler & Co., Leipzig) is heated in a test tube. After the solution has cooled, take 2 to 3 drops of the same and place them on a slide and mix with 1 to 2 drops of semen. From this mixture is at once made a preparation for smearing on the slide. This is allowed to dry in the air, after which the preparation is ready for microscopic examination. With this treatment, the spermatozoa appear as light negative pictures with a dark-blue background. The main shape of the spermatozoa then becomes distinct, and it is especially notable that the delicate drop of protoplasm appears very clearly. The method can be easily used and is suitable for field work.

For staining spermatozoa a method elaborated by W. W. Williams seems most suitable. According to this method the semen is smeared on the slide, allowed to dry in the air, after which it is quickly fixed by heating. The preparation should then be allowed to lie for some hours or until next day. It is then treated with ½ per cent. chloramin solution for a half to one minute to remove any mucus. After that follows rapid washing in distilled water and 96 per cent. alcohol. The slide is then stained for two to five minutes with a solution of carbol-fuchsin-eosin, after which follows rapid washing in water and contrast staining with methylene blue for two to five seconds.

Staining Solutions

Carbol fuchsin. — Stock solution: 10 gr. fuchsin, 100 gr. 96 per cent. alcohol. For staining mixture: 10 gr. stock solution, 100 gr. 5 per cent. carbolic acid solution.

Eosin.—Saturated alcohol solution.

Löffler's methylene blue.—Stock solution: 10 gr. methylene blue, 100 gr. 96 per cent. alcohol. For staining solution: 30 gr. stock solution, 100 gr. 0·01 per cent. potash lye.

If the staining is properly carried out the heads of the spermatozoa assume a reddish-lilac tint, the posterior portion of the head then becomes darker than its anterior one. The tail assumes a dark red colour. The spermatozoa, as a rule, stain very distinctly, which allows of examination with an oil immersion lens. The method gives excellent results but is somewhat tedious and calls for a certain amount of training and practice. It will very likely become a laboratory method. The stained slides are used for a morphological examination of the spermatozoa, and in this one should examine 1,000 spermatozoa and note down all faulty forms. However, a good deal of practice is required before one learns to judge the importance of the changes that occur.

A bacteriological examination of the semen

should be made in all those cases where there is reason to suspect that the ejaculated semen may contain infectious matter. In such an examination, samples may be taken in an artificial vagina or as drip-samples from the penis. The latter should be taken in a sterile petri dish. In order to prevent the semen obtained from drying in the dish, the drops are poured into a tube containing a sterile physiological NaCl solution, which is sent to the laboratory for bacteriological examination.

A thorough examination of the semen can supply very good criteria for judging a bull's fertility. If the number of spermatozoa, with repeated examinations, is low, *e.g.*, below 200,000 spermatozoa per c.mm.; if the number of pathological spermatozoa amounts to 20 per cent. or more; if a large number of immature spermatozoa are present; if the motility of the spermatozoa with several examinations is clearly reduced or pathogenic bacteria can be demonstrated in the semen; then there is reason to assume that such serious disturbances exist in spermatogenesis or in the function of the accessory genital glands that the fertility of the bull is reduced or is altogether absent. When issuing a certificate for a semen examination it should not be stated that the bull is fertile, but mention should only be made of what has been discovered in the examination. Only in those cases where obvious changes are found in the semen picture which indicate that the bull's fertility is reduced, should mention of sterility be made.

In order to be able to give a prognosis in cases of sterility in bulls, it is of the utmost importance to have a reliable anamnesis with the bull's breeding history for quite a long time. Furthermore, a thorough examination of the bull's genital organs, and also repeated semen examinations with longer intervals of time are very valuable for being able to judge the case correctly.

Experience has shown that just as the tubular epithelium degenerates relatively rapidly, so that all formation of spermatozoa ceases, it is under certain conditions also capable of undergoing regeneration, so that normal spermatozoa can again be formed. It must, however, be recollected that degeneration of the epithelium of the seminiferous tubules can occur, under certain circumstances, in so short a period as a few days, whereas, if it be a question of regeneration, one must expect the time to be several months. The conditions for regeneration occurring are that the agencies which caused the degenerative process no longer exist. By means of experimental scrotal insulation of animals I have brought about degeneration of the tubular epithelium, and then during several months followed the semen picture, and been able to note that regeneration as a rule follows after two to six months. I have also, in practice, followed several bulls that had become sterile and been completely devoid of spermatozoa, and seen that these, after a few months, had become quite fertile again.

In many cases it is, however, not worth while from an economic point of view to keep a sterile animal and wait for an uncertain improvement. I have discovered from my investigations that one must consider the prognosis as not being very good in the event of the semen picture not undergoing any essential improvement in three to four months. The treatment becomes expectant. So far we have no means of influencing spermatogenesis by medical treatment.

Summary

The author wishes to point out that sterility in bulls is quite common in Sweden. An account is given of different forms of sterility in bulls; those causes which may entail a disturbance in spermatogenesis and, consequently a pathologically changed semen picture are especially considered. The author is of opinion that the motility of the spermatozoa is no proof or evidence of their being fertile. An account is rendered of different forms of pathological spermatozoa and of so-called immature spermatozoa, and of their importance from the point of view of fertility. The author finally deals with questions concerning semen investigation, and describes methods of staining spermatozoa.

Discussion

Professor J. F. Craig (Liverpool), invited by the President to open the discussion on Professor Lagerlöf's address, observed that he was sure that under the circumstances and in the short time at their disposal the meeting would not expect him to discuss the subject of sterility in bulls in any detail. What they had listened to was one of the most masterly demonstrations which he had ever attended. He congratulated the National Association that they had been able to induce Professor Lagerlöf to come and give them such an admirable address and wonderful demonstration. (Applause.)

Professor Lagerlöf had apologised to them towards the end of his address, but it was evident that no apology was necessary. He complimented him on the clarity of his diction in what was to him a foreign language.

Professor Lagerlöf appeared to have had unrivalled and unique opportunities for investigation into the problem of sterility in bulls and it would be interesting to learn what arrangements were made by him for the provision of such abundant material. He took it that some insurance scheme relating to sterility in bulls was operating in Sweden or that the agricultural societies there were seriously concerned with the economic losses which were suspected

of being attributable to impaired fertility in the bull.

In this country our knowledge on this subject was very fragmentary and no statistics were available. This was at least in part due to the fact that farmers disposed, without further enquiry, of bulls which were suspected of being infertile. It was only when the bulls were valuable or insured or where sterility in the cows had become very serious that professional aid was called for to ascertain what was the cause.

On that account one was not in a position to offer a very definite view as to the relation of the bull to the sterility problem in this country.

There was a suspicion that in pure-bred cattle fertility was not so general as in cross-breds, and that might be related to the want of regard for an hereditary fertile factor in considering the qualities of the animals which are selected for breeding.

In considering the forms of sterility there was no difficulty in incriminating the bull when it showed some definite inability to serve or a want of sexual desire, but it was quite another matter when the bull was active and served the cows and heifers properly and readily and yet the latter or a number of them did not conceive. The bull was often suspect and the suspicion was confirmed when these females proved in calf to the service of another bull. That suspicion frequently arose where a bull was purchased and his advent was followed by sterility in the cows.

It would not, however, be correct to conclude from that history that the apparent sterility of the cows or heifers was due to the infecundity of the bull. There was always the danger of the introduction of some contagious disease such as vaginitis which might be transmitted through the bull during service, and especially in herds which were not self-contained or self-supporting.

It was therefore necessary, where these problems were being investigated, to examine the genital organs of the cows as well as the bull, to look into the breeding history of the herd and make an examination of the semen.

In regard to the semen, he had previously noted that the first ejaculate in some bulls which were not frequently used contained few spermatozoa and it might be necessary to take a sample from a second service. Improvements in the procuring of these samples would add considerably to the value of the examination.

He noticed the advice which Professor Lagerlöf gave in respect of certificates following the examination of the semen. The Professor had advised that "it should not be stated that the bull is fertile, but mention should only be made of what has been discovered in the examination." Professor Craig agreed with that advice, but the certificate was left possibly to a layman to interpret. If one found no abnormal spermatozoa, he took it that that observation had to be taken in conjunction with the breeding history.

He was interested in the observations of Professor Lagerlöf on the so-called immature spermatozoa which he explained as indicating either a commencing degenerative process in the seminal epithelium or a regeneration of the same. It occurred to him that it might also be seen as a phenomenon of the early stages of sexual development. An apparent example pointing to this explanation was seen by him a short time ago. A young Shorthorn bull a little over 15 months of age was purchased at a sale and it was found that when used for service for a few cows none of them proved in calf. He examined the semen and discovered that a large proportion of the spermatozoa showed evidence of immaturity as indicated in the address of Professor Lagerlöf. The bull was then left idle for a few months and afterwards proved to be perfectly fertile.

In conclusion, he hoped that the visit and address of Professor Lagerlöf would prove a stimulus to the institution of a more widespread and comprehensive enquiry into the problem of sterility in bulls in this country.

Professor Lagerlöf, replying to Professor Craig's question as to how he came to begin that research, said that it happened that in Sweden most of their pedigree bulls were insured in one large insurance company, and it was seen that there was something wrong. He had to prepare his thesis and thought that this would be a good subject of study and likely to prove of value in the solution of the problem with which they were confronted.

He thought that there was more sterility in pedigree than in cross-bred bulls. There was too much inter-breeding in their pedigree herds. In some breeds there were perhaps only 20 or 30 herds and everybody wished to buy their bulls from the best of those herds, and all the breed would be of one family.

Regarding the question of a certificate, if he had a bull where one could see this alteration (indicating diagram) in the spermatozoa, then he could say it was useless for service, but if the semen picture was normal then he could only say that he could not see anything wrong in the bull's semen, but he did not say it had good fertility. He had observed cases where the picture had been normal, and yet the cow had not been pregnant. They knew too little about the physiology of the genital accessory glands. Sometimes he had a very high number, perhaps two million, of spermatozoa in one cubic centimetre, and yet there could be too little secretion from the seminal vesicle.

He had charge of large pedigree herds in

Sweden and got samples from all bulls, and when they were put into service he could control them for two years.

Professor Lagerlöf dealt with other points by means of blackboard diagrams, but in reply to a question whether a bull castrated on one side could be passed for a certificate, he said in such a case there must have been something wrong—mostly *Brucella abortus* infection—and he instanced a case of a bull costing £500 which started with this complaint and after being castrated on one side became "all right" after six months.

Major J. G. MacGregor (Stirling), proposing a vote of thanks, said he felt highly honoured that he had been asked to express their appreciation and convey to Professor Lagerlöf their thanks for the very masterly demonstration he had given them that day. He had gone all the way that he could go to give them all the help that he was capable of in further points that were beyond the subject of his address. He did not know how they estimated Professor Lagerlöf's address, but he could give them a pointer as to how a similar demonstration he attended in Stockholm by Professor Lagerlöf, with a friend, was received. The friend, a Scotsman, told him after they came away that that morning had been worth £20 to him. He (the speaker) had tried to estimate what amount he had put into the pockets of veterinary surgeons in England and Scotland.

The subject, of which Professor Lagerlöf was a master, was a most important one in Scotland, and he was confident that his contribution that day—the first Professor Nils Lagerlöf had given in Britain—would mark an epoch in their annals. He knew that Professor Lagerlöf had gone to the length, before he left home, of getting special lessons in enunciation so that he could give them of his very best, and that no stone had been left unturned by Professor Lagerlöf to make him thoroughly proficient. That showed the character of the man. They could not value him too highly. (Applause.)

Professor Lagerlöf, replying, said: I do not know if I can express myself in your language as I should like—(applause)—but I wish to express my sincerest thanks for the very kind remarks which the President and Mr. MacGregor have been pleased to make. I can assure you I took it as a great honour and also a pleasure to have been asked to give this paper before this illustrious Association. (Applause.)

ARMY VETERINARY SERVICE

London Gazette—War Office—Regular Army

Oct. 2nd.—Captain F. L. Cundell resigns his commn. (Oct. 1st.)

Territorial Army

Oct. 6th.—Supern. for Serv. with O.T.C.—Sec. Lt. S. T. Harriss, from Gen. List, T.A., O.T.C., to be Lt., with seniority Jan. 31st, for serv. with R. (Dick) Vet. Coll. Contgt., Sen. Div., O.T.C. (July 31st).

Small-Animal Euthanasia

(By Professor J. G. WRIGHT, F.R.C.V.S., Royal Veterinary College, London)

Major G. W. Dunkin's Introductory Address

No. 2 Theatre was crowded with members, headed by the President, eager to witness a demonstration which, it was confidently anticipated, would provide an informative practical prelude to the important report on the subject of euthanasia of small animals which is shortly to be produced, after an exhaustive investigation, by a special committee of the Association. The demonstrator, Professor Wright, is a member of that committee, and before he "took the stage" an introductory address was given by Major Dunkin, its Chairman.

The President, in introducing Major Dunkin, observed that the latter would explain the implications of the euthanasia report from the committee of the "National" which had been sitting for two or three years.

Major G. W. Dunkin, Superintendent of the Medical Research Council's Farm Laboratories, Mill Hill, said that he gladly accepted the invitation of the Provisional Committee to give a few introductory remarks prior to Professor Wright's demonstration which they had come to see.

He ought to tell those present who did not know, that the Euthanasia Committee appointed by the N.V.M.A. had been sitting and working since 1933. That might seem an unconscionably long time to some of them; nevertheless, the work had been very well done and the members of the committee had indeed worked very hard—in view of the fact that he had not done any work on the subject himself he could say that without in any way encroaching on, should he say, the bounds of decency.

In regard to the general problem of small-animal euthanasia, he thought it was admitted by most veterinarians that when they had perforce to undertake that unpleasant task from time to time, insufficient was known about the subject, and he believed he was not exaggerating when he said that until the Euthanasia Committee of the "National" was appointed three years ago no real attempt had been made to study this question in any detail, from which sound conclusions could be made.

It might be of passing interest to them to know that, for the first time in its history, he thought, this year the American Veterinary Association had staged a demonstration similar to that they were going to see that afternoon, but that Association had not, so far as he understood, investigated the question.

Those of them who had read the N.V.M.A. committee's terms of reference—published some years ago now—would recollect that they were

intentionally wide because it was intended that those who were appointed to carry out the work should not be trammelled, should he say, by irritating restrictions as to where their work should end. The aim of the committee had been to secure for the unfortunate animal whose end was foreshadowed a quick and painless death and they had not in any degree varied in that aim and considerations of the feelings and reactions of hyper-sensitive humans had not been taken into account. Their business was with the animal and the committee had adhered strictly to that position.

He ought to add one other point, and that was with regard to the composition of the committee. The committee was composed of two members from each of the teaching colleges in England, Scotland and Ireland, so that they had been able to draw on all the schools of thought, and he thought he might, without fear of contradiction, say that they had not been narrow-minded in any of the work they had done or in any of the conclusions which they had drawn. So far and without exception, he wanted them to know, their conclusions had been unanimous. He was going to make a special point of that, in case it should be thought by others when they read their report that they might not have been so. If that should not be the case in respect of what little investigation remained, the fact would duly be recorded in the report.

It was quite clear, of course, that work of that sort, published as it would be, and read as he hoped it would be by men who, like those present, had had vast experience of the subject, would possibly promote some measure of disagreement with the findings. That was not casting any reflection either on those who were likely to disagree or on his colleagues on the committee; it was inevitable. Nevertheless, he would ask them to hold hard with their criticisms until they had thoroughly tested out the methods the committee recommended.

There was yet one further point. As time went on, of course, the findings of the committee would possibly have to be revised, and it was up to the "National" to keep abreast of scientific progress and see that the report was not allowed to get out of date. He regretted exceedingly that it had not been possible to arrange for the publication and presentation of the report to that Congress. That was their intention and their hope, but it had been found necessary to postpone publication for a few weeks—he thought only a few weeks, because the practical side of the work was virtually complete—for the reason that the writing up required to be done in London and some yet remained unfinished. In a few weeks, however, he hoped that the report would be in their hands.

Finally, he wanted them to know—and this was the first public occasion which he had had whereupon he could make mention of it—that many individuals and firms had freely helped them with advice, the loan of instruments, gifts of drugs, and so on. All these individuals and firms were mentioned by name in the report, and he only referred to them now because it gave him that opportunity to express publicly his gratitude to those who had been so generous in their assistance.

He felt, too, that he should at that time thank the committee for their untiring efforts, for their fairness and also their forbearance with a somewhat exacting and generally difficult Chairman. (Laughter.) He wanted them to know how much he appreciated all this and how pleased he hoped his hearers would be with their work and with the published report. (Applause.)

He wished them now to see what they had come to see—the demonstration by Professor Wright.

. . . . . .

Following Major Dunkin's address a demonstration of a number of methods of small-animal euthanasia was given by Professor J. G. Wright, F.R.C.V.S., assisted by Mr. C. Formston, M.R.C.V.S., also of the Royal Veterinary College. Full details of these methods will be available in the report of the Euthanasia Committee of the Association which is shortly to be published.

Those employed included:—

Dogs.—(1) The use of the Temple-Cox captive bolt pistol.

(2) Stunning by means of the Golledge electrical euthanator, followed by the intrathoracic injection of hydrocyanic acid.

(3) The induction of deep general anaesthesia by the injection of nembutal,

(*a*) by the intraperitoneal route,

(*b*) by the intravenous route,

followed by the intrathoracic injection of hydrocyanic acid.

(4) The administration of lethal doses of a concentrated solution of magnesium sulphate by intravenous injection.

(5) The administration of lethal doses of fluid avertin by intravenous injection.

Cats.—(6) The induction of deep general anaesthesia by the injection of nembutal by the intrathoracic, intraperitoneal and intravenous routes, followed by the injection of hydrocyanic acid in those cases in which the anaesthetic was not rapidly fatal.

Local Anaesthesia (Nerve-Blocking) for Dehorning of Cattle

(By Professor T. G. BROWNE, M.R.C.V.S., Dublin.)

In giving this demonstration Professor Browne made the following observations regarding it:—

This method of nerve-blocking for dehorning cattle was first devised by Emmerson about four years ago in the U.S.A. and is described by him in the *Veterinary Extension Quarterly of the University of Pennsylvania Bulletin*, No. 52, 1933. It consists in injecting a local anaesthetic over the sensory nerve which supplies the corium of the horn, therby blocking this nerve and thus depriving the horn corium of its sense of pain, so that the horn can be painlessly removed. This nerve is the cornual branch of the superior maxillary division of the fifth cranial nerve and it comes off at the back of the orbit in company with the lachrymal nerve. It ascends just behind the lateral ridge of the frontal bone which can be easily felt in the live animal extending from the eye to the base of the horn in front of the temporal fossa. The nerve is relatively deeply placed just above the orbit but becomes more superficial as it passes towards the base of the horn, so that opposite the upper third of the lateral ridge of the frontal bone it is covered only by skin and a very thin layer of muscle (frontalis muscle). The injection is made behind the lateral ridge of the frontal bone preferably at a point about two-thirds of the distance from the eye to the base of the horn, that is, slightly more than an inch below the base of the horn (in the average-sized animal). Emmerson recommends making the injection at a point midway between the eye and the base of the horn, but at this position the nerve is a little more deeply placed and is surrounded by some fat so that it is not as easily located here as at the higher site. The lateral ridge of the frontal bone is located with the thumb of the left hand and the needle is inserted close behind this ridge at the site mentioned and is directed ventrally and inwards, *i.e.*, towards the angle of the jaw. It is inserted to a depth of only half an inch, piercing only the skin and the thin frontalis muscle. If the injection be made too deeply it will fail to block the nerve. An 18-guage needle one inch long is the most suitable and it is inserted only half its length. Occasionally the needle may enter the cornual vessel when blood will flow freely from the needle. In such a case the needle should be withdrawn until the blood ceases to escape.

Any of the ordinary local anaesthetics may be used, such as 2 per cent. novocain or Parke, Davis's "Parsetic," which is 2¼ per cent. ethocain with adrenalin, but these require from 20 minutes to half-an-hour to produce complete desensitisation; 5 to 8 c.c. are used for each injection. A stronger solution will act more quickly. Emmerson recommends 4 per cent. procain with adrenalin and 5 c.c. are injected.

Pricking the skin at the base of the horn is a good method of determining whether anaesthesia has been established, and should anaesthesia not be complete on one or both sides a second injection may be made. Complete anaesthesia usually persists for about one hour.

Any dehorning instrument may be used, but the saw is the most satisfactory, since it makes a clear cut without bruising of the tissues or fracture of the bone, so that the after-effects are negligible and the haemorrhage is usually very slight. For the removal of each horn the operator stands on the opposite side, leaning against the animal, so as to operate the saw above the animal's neck.

All aseptic precautions are taken regarding the anaesthetic and the operation, the hair being clipped and the skin disinfected. In order to steady the animal's head it is advisable to have it held with the jaw resting on a crib or crossbar.

The advantages of this method of anaesthesia will be obvious to the practitioner, but it has a few disadvantages, the chief of which are the delay involved in waiting for the anaesthetic to act and the fact that it necessitates each animal being caught and restrained on two occasions, first for the injection and then for the operation. However, if a number of animals is to be done they can be taken in batches of five or six and all in each batch can be clipped and disinfected at the site and the injections made before commencing to operate on the first animal injected. Since the effects of the anaesthetic last for about an hour the operator has considerable latitude regarding time.

Anyone who wishes to adopt this method of anaesthesia would be well advised to procure the head of an ox, dissect the cornual nerve and practise the injection before attempting it on the live animal.

According to the Animals Anaesthetic Act, of 1919 it is an offence to dishorn cattle over one month old unless the animal be under the influence of a general anaesthetic. It is obvious that this Act would now require to be amended regarding this operation.

In order to avoid a breach of this Act, the horns were not removed from the animal used for this demonstration, but all the other part of the technique was demonstrated and a dissection of a bovine head was on view showing the nerve to the horn and the correct position of the site of injection.

Spinal (Epidural) Anaesthesia in the Cow

(By Professor T. G. BROWNE, M.R.C.V.S., Dublin.)

Professor Browne described the technique of this method of anaesthesia in detail and illustrated his remarks with anatomical specimens, one of which revealed the arrangement of the nerves coming off from the lumbar and sacral portions of the spinal cord.

Professor Browne gave a similar demonstration on the cow at the Congress at Belfast last year and a full account of the technique which he employs appears in the Congress number of the *Veterinary Record*, August 24th, 1935, page 997.

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Spinal (Epidural) Anaesthesia in the Horse

(By Professor T. G. BROWNE, M.R.C.V.S., Dublin.)

In giving this demonstration Professor Browne observed that the general technique of this method of anaesthesia in the horse is very similar to that in the ox, the anatomical arrangement of the spinal cord and nerves in the sacral region being very much alike in these two animals. Professor Browne gave a similar demonstration on the horse at a meeting of the Veterinary Medical Association of Ireland in May, 1936, and a detailed description of his technique will be found in the *Veterinary Record*, July 18th, 1936, page 893.

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Cryptorchid Operations

(By Sir FREDERICK HOBDAY, C.M.G., F.R.C.V.S., Principal and Professor of Surgery, Royal Veterinary College, London)

A very attractive feature of the proceedings in No. 3 Theatre, where the large animals were either operated upon or made the subjects of demonstrations, was the performance of the above operations by Sir Frederick Hobday. In each case the operator explained his technique as he proceeded, and his efficient manner of coping with the difficulties encountered was much admired.

Two cryptorchid cart-horse subjects had been provided for demonstration. Each was operated upon under chloroform anaesthesia, being secured in the ordinary way by the aid of the usual casting-rope, the hind limbs being so pulled apart that the site of operation was visible and well exposed. The site of operation and the surrounding parts were cleansed with cotton-wool and petrol (the scrotal region having previously been shaved) and then painted with iodine,

A Cryptorchid Operation "Snap"
(Sir Frederick Hobday, Mr. Harvey, *et al.*)

Sir Frederick, who has now operated upon over 3,000 of these cases, stated that the operation was still as fascinating as ever—for every case presented its own individual peculiarities; the operation being aptly described as like the "lucky-bag" competition of a bazaar. For the past 25 years he had used the petrol and iodine method for cleansing the skin, in preference to scrubbing and washing the parts.

The first horse, a Shire colt two years old, was definitely stated by its owner never to have been operated upon, nor had the testicles ever been seen in the scrotum. A testicle was readily found and removed from the right inguinal region—at the extreme top of the inguinal canal; but a prolonged search of fully an hour by two other cryptorchid surgeons (Messrs. R. Hudson and A. H. Watson), in addition to Sir Frederick Hobday, failed to reveal any trace of a testicle in the abdomen on the left side, although each operator carefully followed the usual landmarks. This case had a fatal sequel three days afterwards from peritonitis, a portion of the small intestine descending into the scrotum. A *post-mortem* examination was made by Messrs. Brekke, Watson and Martin, who stated that there was no sign even of a rudimentary testis, nor yet of a cord—the animal being, what is comparatively rare, a monorchid. Sir Frederick, in disserting upon this case to the audience, had already mentioned that although this condition was rare it was well recognised by cryptorchid operators and that he himself had had personal evidence on two previous occasions of this malformation.

The second case had a much more satisfactory ending, although the operation was of more than usual interest on account of the enlarged and cystic testicle which was found in the abdominal cavity and removed. The subject was a Shire horse, six years old (from which one testis had been removed), whose treacherous and troublesome disposition had already caused the animal to change owners five or six times within the past two years; the present owner

describing the horse as being at certain times absolutely uncontrollable. The history was that one testicle had been removed some time ago, but no trace could be felt or seen of the presence of the other. The horse had become very treacherous and dangerous, so much so that if nothing could be done it had been decided that the animal would have to be destroyed.

Under chloroform (and with sterile cloths, etc., about the site of operation), entrance to the abdomen was gained through the inguinal canal as in the previous patient, Sir Frederick explaining to the audience that he was careful not to go through the internal inguinal ring, but to enter sideways through the internal abdominal muscle. A large cystic testicle was quickly discovered and removed—the cord being also much enlarged, very flabby to the touch and much longer than normal—the specimen afterwards being given to Sir Frederick for the Royal Veterinary College Museum, for which it is being prepared and where eventually it will find a place.

* * * * *

Operation for Umbilical Hernia

(By Mr. R. Hudson, F.R.C.V.S., Retford, Notts.)

The subject was a yearling filly and hardly suitable for the operation owing to the small abdominal opening, but it served to show the procedure.

The method may be described as a variety of the clam and suture method, intended to approximate the edges of the abdominal wall until union takes place.

The clam is made of aluminium beading, flat on one side and rounded on the other, such as is used on motor cars, and it is drilled every three-quarters of an inch with a three thirty-second inch hole. It is five-eighths of an inch wide and three-sixteenths of an inch thick and cut in various lengths. The sutures or wires are made from 16 gauge plated bicycle spokes ringed at one end and pointed at the other. They are about five-and-a-half inches long.

Procedure.—The animal was cast and anaesthetised, the skin cleansed, shaved and prepared as for a radical operation.

The peritoneal sac was exposed through a longitudinal skin incision and dissected out to the edges of the abdominal opening, care being taken to avoid penetration. Having selected a clam long enough to cover the length of the hole, a wire was passed through a hole in one half of it, near the end, through the skin, the edges of the abdominal wall out over the sac, then through the opposite edge of the abdominal wall and skin.

The wires were placed at three-quarter inch intervals and having used sufficient for closure of the hole, they were passed through the corresponding holes in the other half of the clam. The clam was then closed tightly and the ends of the wires cut off and turned over.

The peritoneal sac was not removed but infolded by closure of the edges of the hole. The edges of the skin wound were trimmed level with scissors and brought together with a continuous returning suture.

The convex side of the clam is placed to the skin.

Comments.—Umbilical herniæ vary in size from small round holes admitting a finger-end to those large enough to admit the hand.

Small herniæ may be cured by occluding the hole by swellings set up by blisters and injections of ol. tereb. (30 m.). Larger ones are better dealt with by needles and ligaturing of the sac. Elliptical holes larger than about two inches are difficult to close by ligature and may be better closed by clam, but clams are difficult to keep in position.

Radical operation with removal of the peritoneal sac is risky owing to the possibility of the sutures giving way. The inversion of the sac and closure is safer and just as effective for bringing about union, but sutures here are subject to great strain and often give way. Sutures of the quilled type offer more support, hold the wound more rigid and give a better chance of union taking place. It is on the quilled suture that the idea of the needles and clam is based.

Union of the abdominal wall should be complete in about three weeks and the clam is removed by cutting off the end of the needle and withdrawing it.

Chloroform and other materials were kindly supplied for the operation by Messrs. Willows, Francis, Butler and Thomson.

* * * * *

Mare for Diagnosis

(By J. O. POWLEY, M.R.C.V.S., Harrogate)

Subject.—A seven-year-old blood mare—Friar Marcus strain.

As a yearling a somewhat diffuse swelling of the consistency of rubber appeared in the submaxillary space. She was seen by several veterinary surgeons and the swelling treated by blistering, setoning, iodine injections and iodine internally. None of the treatments had any appreciable effect in reducing the swelling, the owner deciding when the mare was four years old to breed from her and leave treatment to nature. Since that time the swelling has fluctuated, continuing to increase in size until the whole submaxillary space from the angle of the jaw to the chin was filled with a swelling of the consistency of rubber in the centre, but the edges on palpation showed fluctuation suggesting the presence of fluid in the connective tissues. At about three to four weeks intervals the swelling bursts—invariably somewhere on the chin (being the most dependant point) and discharges a clear, colourless fluid with the

physical characteristics of saliva. The discharge, which has never appeared purulent, will continue from three to seven days, cease, and the whole process be re-enacted once more. Examination of the teeth reveals no abnormalities and the buccal mucous membrane appears normal. There has never been any difficulty in mastication or swallowing. The mare grazes normally, being a good doer and always in excellent condition.

The only suggestions as to the diagnosis of the condition forthcoming at Congress were botryomycosis, some interference with the salivary duct, or harpooning a portion of the enlargement for examination. The discharge has never been examined microscopically or chemically.

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In the same theatre Major T. Dalling, M.R.C.V.S., of Beckenham, gave a most useful demonstration of the *technique of intravenous injection in the horse.*

* * * * *

Burdizzo Castration of Calves and Sheep—Special Technique

(By W. W. LANG, M.R.C.V.S., Brigg, Lincs.)

The object of this demonstration was to show how the testicle can be completely detached from the cord by manipulation. The organ is pulled down as far as possible, thus rendering tense and round the cord, which is pushed to the side of the scrotum by means of the thumb and fingers of the upper hand. The Burdizzo castrator is then applied to the upper third of the testicle, engaging only the inner portion of the instrument when it is closed. A quarter turn, right or left according to the side being operated on, brings the testicle to the upper side, when, with the palm of the hand, it is pushed over the edge of the instrument, this being accompanied by a dull crack, evidently due to the breaking of the vas deferens. In older animals, as an additional safeguard, the cord is crushed once at a higher level before the above, but in younger animals and rams once only is sufficient. In sheep, great care must be taken to avoid tearing the scrotum.

Animals operated on in this manner do not show any rig propensities, as often follows crushing alone.

The demonstrator acknowledges his indebtedness to Mr. G. W. Begg, who first suggested the method to him.

* * * * *

Impacted Ileum (Morbid Specimen)

(By W. W. LANG, M.R.C.V.S., Brigg, Lincs.)

In connection with this exhibit, the following observations were circulated to members:—

"In this case the bowel was cleared 22 hours after the onset of the illness and during that time fluid, to the calculated amount of 18 to 20 gallons, was removed from the stomach by repeated syphonage (tube); but death from toxaemia took place two days later. On *post-mortem* examination the site of the impaction was found to be a few inches from the ileo-caecal valve and it was evident that about two feet of the bowel had been involved.

"Note the thickening of the bowel wall and the smooth condition of the mucous membrane; beyond, the membrane is in folds. Dividing the two latter can be seen a fold or groove with small necrotic areas. Careful examination of the cut wall opposite the ends of the groove reveals the presence of minute calcified areas which are presumed to be calcified emboli; embolism is probably the cause of the impaction.

"Since Hudson's publication (*Veterinary Journal*, 1936; **92**, 2, p. 50) eight cases have been recognised and treated; six of these have recovered, one horse having a recurrence seven days later—he is alive and well.

"Treatment of these cases is to a certain extent still in the experimental stage."

* * * * *

Poultry Diseases Demonstrations

(By Mr. K. D. DOWNHAM, B.V.Sc., D.V.H., of the Harper Adams Agricultural College, Newport, Shropshire)

Mr. Downham was responsible for the section upon poultry diseases, which included an address, demonstrations and exhibits of diseased specimens. These were given at 2 p.m. in Theatre No. 1 at the Corporation Stables on Tuesday afternoon. The address upon some of the commoner diseases of poultry was delivered at 3 p.m., accompanied by practical demonstrations of veterinary poultry practice.

Some 60 photographs of disease conditions were shown. These were all taken from specimens sent to the demonstrator for diagnosis. Several live birds exhibiting characteristic symptoms of disease conditions commonly encountered in poultry practice were shown. A number of dead specimens revealing condi-

tions which were of value from the standpoint of differential diagnosis were also exhibited.

Avian Tuberculosis

Practical demonstrations of the method of conducting the intradermal wattle test for the diagnosis of avian tuberculosis were given upon live birds and positive and negative reactions were shown.

The demonstrator gave a short account of avian tuberculosis, and the importance of keeping birds from contact with tubercle-free cattle on account of the susceptibility of such animals to react to tuberculin after associating with infected birds, was stressed. The disease in pigs and calves following contact with fowls was described. In giving an account of the symptoms of the disease, reference was made to the fact that, although it was usual to find second year or older birds suffering from avian tuberculosis, it was possible for birds of any age to become infected. Drooping of the wings due to tuberculosis of the wing joints was sometimes manifested, and lameness due to infection in the joints of the legs was frequently present. In the advanced stages of the disease emaciation, diarrhoea, paleness of comb, wattles, skin and mucous membranes with weakness and gaping mouth were often seen. *Post-mortem* specimens illustrating diseases which might be mistaken from their macroscopic appearances were shown; these included birds infested with the tapeworm *Raillietina echinobothridia* which presented nodular disease of the intestines; a bird suffering from chronic coccidiosis caused by *Eimeria mitis*, with multiple nodules throughout the intestines from which the causative protozoön was demonstrated microscopically. Photographs were on view illustrating lymphomata affecting the liver, spleen and intestines; lymphatic leukaemia, affecting the liver, spleen, kidneys and all the lymphatic nodes of the body—the difference between this condition and avian tuberculosis being that the lesions produced by the avian mycobacterium are generally more circumscribed and often protrude from the organ in which they are found. Blackhead lesions in the liver of turkeys were shown; these might be mistaken for tuberculous lesions, which in these birds occasionally present a slightly similar appearance.

Demonstration of the Tuberculin Testing of Fowls

This is the method of diagnosing avian tuberculosis during life. An assistant holds the bird facing the operator, who, using a small hypodermic syringe, to which is attached a No. 16 Record needle, injects 0·1 c.c. of avian tuberculin into the skin of one wattle, the other wattle being left uninjected to act as control. Care must be exercised in carrying out the test to ensure that the needle enters the skin and not the space between the two skins which compose the wattle. If the injection is too superficial the pressure of the tuberculin may rupture the skin and the contents be discharged on the surface, or the skin may be pierced and the needle point reappear on the wattle. When correctly carried out, the needle pierces the skin at an acute angle, a small tract is made in the skin to allow room for the tuberculin, and during the operation the index finger of the operator's hand, which is not holding the syringe, presses on the inner surface of the wattle to elevate it and facilitate the entrance of the needle. The bird is examined at the twenty-fourth hour following the injection of tuberculin and again at the forty-eighth hour. A positive reaction consists of a dough-like swelling or even thickening of the wattle; any increase in thickness of a diffuse character constitutes a positive reaction. In many birds the increase in thickness is very slight.

The method was carried out upon a number of live birds and positive and negative reactions were demonstrated. Photographs of slight and well-marked reactions were shown. It was pointed out that it may be necessary to keep the ground free from poultry for twelve months after an outbreak of avian tuberculosis has occurred. If the tuberculin test is used it is generally necessary to repeat the test until no reactors are found. It has been shown that where protein matter containing tubercle bacilli is present chemical disinfectants are of very little value for the purpose of destroying the organisms. Ploughing or spading of the ground used by fowls followed by green crop, such as kale or cabbage, is recommended after an outbreak of avian tuberculosis.

The percentage of fowls suffering from avian tuberculosis was found by the demonstrator to be 5 per cent. of the total number of diseased fowls sent for examination during the past three years.

Coccidiosis

A live fowl suffering from duodenal coccidiosis, caused by *Eimeria necatrix*, and exhibiting partial paralysis of the legs and wings was exhibited. Birds showing similar symptoms to the above are frequently thought to be suffering from so-called true fowl paralysis or neuro-lymphomatosis, and collections of leucocytes or lymphocytes may be found in the nerve sheaths or other organs. The disease is responsible for serious losses to poultry-keepers and is generally found where methods of flock management are at fault. Photographs of acute coccidiosis in chicks aged 14 days to six weeks and caused by *Eimeria tenella* were exhibited. Mounted specimens of ulceration of the caeca

due to coccidiosis were shown. The carcase of an emaciated pullet with large nodular ulcers caused by coccidia was demonstrated. Microscopical preparations of coccidia of various species and the method of demonstrating coccidia from *post-mortem* specimens was carried out. The various control methods advocated included the value of movable grass run rearers, folding units, wire floor houses and small movable unit houses designed to enable fresh ground to be constantly available for young birds.

It is stated that coccidiosis is now found to be the most serious disease of poultry.

Pullorum Disease (B.W.D.)

The method of diagnosis of this disease in chicks was demonstrated. The technique of making cultural preparations was described and selective media sown with the causal organism, *Salmonella pullorum*, were exhibited. The disease in adult birds was described and the technique of taking blood samples and carrying out the agglutination upon the sera of fowls was shown; positive and negative reactions to the test were demonstrated, and the apparatus for carrying out the laboratory work in connection with the test was exhibited. Photographs of infected birds showing the *post-mortem* appearance were on view.

Neuro-lymphomatosis

The method of examining carcases to expose the nerves and plexuses which are commonly affected in this condition was demonstrated. Microscopical preparations showing nerves with lymphoid and other cells were presented, together with photographs of the viscera, nerves and eyes of affected birds. The demonstrator stated that, in his view, this condition rarely existed by itself but was the result of a disease process which had existed for some time in the body of the bird. Where intestinal damage, due to coccidia, or repeated attacks of intestinal parasites or incorrect feeding had occurred, the way was prepared for toxins or disease agents to over-stimulate the organs which produce these cells until they were finally passed into the blood stream in an immature form and constituted collections of abnormal cells approximating tumours.

Blackhead of Turkeys (Entero-hepatitis)

Preserved pathological specimens illustrating the lesions produced by *Histomonas meleagridis*, the protozoan parasite which causes this disease in turkeys and more rarely in chickens, were exhibited. The typical circular areas of necrosis in the liver with the areas of demarcation between the healthy and diseased tissue were shown. Inflammatory areas in the caecae were also exhibited.

The method of treatment by means of arsenical preparations was discussed, emphasis being laid upon the importance of the removal of birds after treatment to ground which had not been used for turkeys or fowls previously. The method of conducting intravenous injections in turkeys was demonstrated upon a number of live birds, the procedure being as follows: An attendant holds the bird against his body with the feet upmost; the wing is extended and the small wing vein which crosses the angle of the wing is exposed—it is seen to cross a small tendon of the abductor muscle of the forearm. The skin over the vein is pierced by a small needle of fine calibre attached to a hypodermic syringe containing the required dose of the arsenical preparation to be injected. After piercing the vein the needle is passed along it for a short distance and the piston retracted, drawing a small quantity of blood into the syringe; the drug is then slowly injected into the vein.

No Law Against It
(Dr. Bullock [in beret], Mr. Nairn, Mrs. Nickinson)

UNIVERSITY OF LIVERPOOL EXAMINATION LIST

The September, 1936, Examination List of the University of Liverpool contains the following results of the First Examination for the Degree of B.V.Sc., from the School of Veterinary Science:—

Part II (Physics).—Greenway, E. D., Kenyon, J. E.; *Part III (Biology).*—Greenway, E. D., Kenyon, J. E.

Social Activities at Scarborough

"Whoever was responsible for choosing this centre ought to be congratulated,"—in this happily-conceived sentence a speaker at the Closing Meeting of Congress epitomised the universal opinion and, as he was "officially" returning thanks to the town on behalf of the members of the Association, also provided an introduction to our account of the social aspect of the Conference that cannot be improved upon by elaboration. We trust, indeed, that our report will speak for itself, yet it is incumbent upon us to add that the courteous hospitality shown at the very outset, which enabled the Association to hold its meetings in the new Public Library buildings before even the citizens themselves could gain access thereto, was continuously manifest throughout the week. We were made temporary Freemen of all Scarborough's manifold municipal attractions, while, the town, coast and country being hosts in themselves, the Provisional Committee were wisely content with but one arranged excursion, leaving it to the members, with entirely justifiable confidence, to extract unfettered the maximum degree of enjoyment from an almost limitless range of possibilities. "Cricket Week" preceded our arrival, and with the weather suited to such a festival following through in fine style, Scarborough must be said to have scored heavily for those who would have us visit a seaside resort every year.

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The "Yorkshire" "At Home"

Those to whom "a Yorkshire welcome" was no more than a well-known phrase found it verified in full measure at the Royal Hotel on Sunday, September 13th, when members of the Association and their ladies foregathered in advance of the opening day of Congress as the guests of the Yorkshire Veterinary Medical Association. Conference attendance does not attain full strength until a day or so has passed and the fact that even at this preliminary stage the number of guests taxed the ordinarily ample accommodation to the utmost was an indication of assured success most welcome to our hosts.

The informality of the proceedings enabled the gathering, in a way that no set programme could have done, to achieve its primary purpose of giving a social send-off to the great week. "See you at the Congress" has been the slogan for months past, and the Yorkshire Division rendered admirable service by providing the earliest possible opportunity for all to implement that promise under the happiest circumstances with the hospitable aid of refreshment and music.

CIVIC RECEPTION

A civic reception was accorded to the members and their ladies at the Royal Hotel on Monday evening, when about 300 guests were received by the Deputy Mayor (Alderman G. K. G. Pindar) and Mrs. Pindar, who were accompanied by the President, Captain J. R. Barker and Mrs. Barker.

As is the custom at Scarborough on these occasions, there were no set speeches, the proceedings being pleasantly informal. A cabaret entertainment was submitted by members of Murray Ashford's "Bouquets Concert Party," and there was dancing in the ballroom to music by Victor Chapman and his Band. Buffet refreshments were served, the programme terminating at one o'clock.

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THE PRESIDENT'S RECEPTION

In August of last year Captain J. R. Barker, of Hereford, entered upon what was recognised as likely to prove to the Association a supremely important and potentially invaluable year of office, with the good wishes and highest hopes of every member of the Association. On September 15th of this year it seemed that all were at the Royal Hotel, Scarborough, to bear testimony to their appreciation of the success with which the President, splendidly supported by Mrs. Barker, had carried through his task. The size of the attendance was, indeed, symptomatic of the manner in which Captain Barker has "closed the ranks," but it was also a tribute to personal popularity. A "record" number of members and their ladies enjoyed the occasion to the full, pleasure being heightened by the President's hospitality, and the carrying through of a dance programme and a first rate cabaret entertainment.

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THE CONGRESS BANQUET

Lord Feversham on the Veterinary Profession in its Relation to Agriculture

"Banquet night" at Scarborough—that of Wednesday, September 16th, 1936—was made memorable in the history of the National Veterinary Medical Association by marking the occasion whereon over 350 members, guests and their ladies—the largest number in the history of the "National"—participated in what must always be regarded as the leading social event of the Association's year. A further gratifying feature of this function at the Royal Hotel was the fact that it was selected by the Earl of Feversham, Parliamentary Secretary to the Ministry of Agriculture, as the opportunity upon which to make his first public pronouncement since his recent appointment.

The President, Captain J. R. Barker, proposed the loyal toast.

"THE BOROUGH OF SCARBOROUGH"

Dr. W. R. Wooldridge, proposing the "Borough of Scarborough," said: We have had such a pleasant few days in Scarborough already that I am sure every member here envies me the task of expressing in some small way our pleasure and our appreciation of the Borough of Scarborough. (Hear, hear.) At first sight it appears to be a typical bit of Yorkshire. It is situated on and around a hammer-like peninsula, and in that way it seems to me to typify the Yorkshire determination we all know so well. On top of this peninsula we have one of the most historic castles in Great Britain.

This castle, together with the town around it and the various other attractions within the borough, assures us that we have come to no common place. We have come to a town that has been careful to retain all those historic features so important in the life of any community.

In spite of its very ancient history, however, nobody can say that Scarborough has not advanced with the times. The town has all the amenities of any modern town and, in addition, it has attractions associated with its situation on the coast which few other resorts can claim to possess. It has no straight coastline with one dull promenade—or at least dull to those of us who have been married for some years! (Laughter.) The peninsula has two very attractive sweeping bays with glorious sands for the youthful such as my uncle, Professor Wooldridge (cheers)—to dig in. There is the sea and its pool for those more aquatic animals such as my wife. (Laughter.) But thinking of the history of Scarborough makes one's thoughts go back very far—Scarborough was on the map in the Bronze Age, and in the time of the Romans it became one of the most important outposts of the Roman Empire.

Recalling the sieges of the Scarborough Castle, Dr. Wooldridge proceeded: In 1318 Scarborough had the privilege of stopping the on-raiding hordes of Scots—(cheers)—descending upon this beloved and generous island of ours. It is perhaps a pity to think that the present Corporation of Scarborough has offered a welcome to a second invasion: as soon as it was known that this Corporation was giving us a ticket which would allow our members to enter free the various amusements of the town, the number who came from over the Border immediately multiplied many times. (Loud laughter.) I myself have been wandering about this beautiful town and on one occasion found myself by the miniature railway. I asked somebody whether I would stand any chance whatever of getting on the railway, and he assured me, with a sad voice, that it was absolutely impossible. He said the natives have now already re-christened it "The Highland Railway." (Laughter.)

I must confess that Scarborough is a most delightful town in which to spend a holiday. It has the attributes of many of those little villages in the Tyrol or Switzerland. You have the glorious hills, which Colonel Dixon calls mountains. (Laughter.) You have delightful valleys, which not only separate the picturesque hills one from another, but go upwards into those glorious Yorkshire moors which are an equal delight both to the walker and the motorist. (Cheers.)

The Deputy Mayor, Alderman G. K. G. Pindar, (replying): May I say immediately that I very much deplore the fact that civic duties have called my colleague and our present Mayor away from Scarborough and prevented him from being present. I am perfectly sure, had he been here, he would have thoroughly enjoyed the whole function, and he does ask you to accept his most profound regrets and his good wishes for the continuing success of your Conference. I would like to thank the proposer of the toast for the extremely charming way in which he has proposed the "Borough of Scarborough." This is the first instance when I have heard a visitor propose a similar toast and enter into the history of our borough in the way Dr. Wooldridge has done to-night.

We are distinctly and definitely proud of the things to which he has drawn attention, that ancient Stone Age village on the Castle Hill, showing that Scarborough has been a home of men and women for approximately 4,000 years. We are proud of our inheritance; we are proud of the beauties that God has given us, and we have tried not to spoil that beauty but to make it more useful for you and others to come and see.

Mr. President, I listened the other day with interest to a few moments of your deliberations; I have read accounts of them in the newspapers, and I find myself in the happy position of being with all sincerity able to congratulate you on the excellent work that you are doing. (Cheers.) At the back of the mind of the speaker, in proposing this toast, was the fact that this place is a health resort. We do definitely strive to help people to recover their health, and that gives us immediately, I think, a contact with your Conference, you yourselves and the objects for which you are gathered together. I realise that you go much further than the immediate purpose of dealing with animals and restoring them to health—you realise the association of the animal with the superior animal—the gracious ladies we have here to-night, and the ordinary man. You do definitely link up your work with the wider issue. You have a greater outlook

and, I think, a wider outlook. Because of that I do say to you that Scarborough, having a similar mind in many ways, wishes your Congress not only the success it has had up to date, but greater and more increasing success. (Cheers.)

May I say, having known members of your profession in Scarborough all my life, at least as long as I can remember anything, that I have an extremely high opinion of them. Scarborough has been extremely fortunate, in my judgment, in those who have followed the practice of veterinary surgery. My mind goes back to a very charming man who was extremely kind to me when a small boy and who gave me my first ride on horseback. From that day to this I have known the veterinary profession in Scarborough and have nothing but the highest praise for it.

I thank you for the delightful way you have received this toast. We shall be pleased to see you whenever you come to Scarborough. (Cheers.)

"THE NATIONAL VETERINARY MEDICAL ASSOCIATION"

The Right Hon. the Earl of Feversham, Parliamentary Secretary to the Ministry of Agriculture, who submitted the above toast, said: It is with very sincere pleasure and with keen appreciation of the honour that you have paid me to-night that I am here to propose the toast of your Association. It gives me added pleasure that my first attendance at a function in my new capacity as Parliamentary Secretary to the Ministry of Agriculture—(applause)—should be at this Fifty-fourth Congress of the National Veterinary Medical Association, and particularly because that Conference is being held within the boundaries of my own home county. I hope and expect, from what we have heard to-night from Dr. Wooldridge, that you have become accustomed to our behaviour—both canine and human—(laughter)—and that if you stay sufficiently long you will become one of us. We Yorkshiremen consider everyone a stranger until he or she has been here at least twelve months. But, ladies and gentlemen, above all it is a privilege to be with you on this occasion when, after years of influence within your Association and progress in reputation your membership to-day stands at something like 1,800, which, I believe, is the highest figure which has yet been reached in your long career. (Cheers) There is, of course, no cause for wonder, and every cause for satisfaction and rejoicing that your Association and the profession whose many-sided activities it represents. should be flourishing like the proverbial bay tree.

I see that first in the list of objects of this Association comes the promotion and advancement of veterinary and allied sciences. I can say without hesitation that the fundamental importance of that aim is appreciated by all who have the interests of the agricultural industry at heart. The necessity for a prosperous agriculture has been increasingly recognised in recent years. But it is clear that the prosperity and welfare of agriculture must be dependent upon the achievements of veterinary science and the skill of its practitioners. I think that, perhaps, a very few figures, although I, personally, abhor any quotation of statistics, will amply prove that contention. The annual value of the farming output of the United Kingdom is of the order of £250,000,000, and livestock products account for approximately £175,000,000, or more than 70 per cent. of the total. Such figures, I think, fully reveal the vital importance of the veterinary profession to the economic health of our agriculture and indeed to our national welfare. The remarkable progress of animal pathology during the course of the last half-century or so has contributed immeasurably to the well-being of seven-tenths of our agricultural products.

The ravages of sheep-pox, of cattle plague, of pleuropneumonia, are distant memories even amongst those who are the oldest of us, and more recently rabies and glanders have been overcome. Steadily the diseases which afflict our flocks and herds are being beaten back and conquered, and your profession may justly pride itself in the achievements that stand to its name. (Cheers.) Perhaps a layman may be allowed to reflect for a moment upon the present position. The proper care of the animal population is as important to the agricultural industry as the care of human life is important to ourselves. In human pathology the development of specialisation has, I think, been outstanding in the last few decades, and especially so since the Great War, which made widespread many forms and different kinds of physical and bodily sickness which were previously unknown.

In veterinary science the investigation work of recent years has shown how complex is the nature of animal diseases and how patiently we must await results in certain directions. The key to future developments must surely rest upon an extension of specialisation. In yet another way have the medical and veterinary sciences undergone a similar change of outlook, and that is in the stronger emphasis that is to-day being attached to preventive as opposed to remedial measures. There, I think, is an important field for the general veterinary practitioner, for disease cannot be prevented unless the agricultural community is well informed as to the proper means of prevention. And much can be done, and is no doubt being done, to-day by practitioners in the course of their daily

visits to educate producers in the best and healthiest manner of handling livestock. Thereby not only may losses from disease be minimised, but the quality and indeed the profitability of our livestock will be increased. Much therefore has been achieved in your profession; much also remains to be done.

The State will play its proper part in backing up your efforts by encouraging veterinary research and education which I consider the twin guarantees of future progress. (Hear, hear.) Let me for a moment take research first. The Ministry of Agriculture provides some £16,000 annually for its own veterinary laboratory at Weybridge where work is carried on in connection with the notifiable diseases and research is undertaken on animal diseases generally.

The institution as you know is the main centre for research on contagious diseases and considerable expansion of that particular branch of the institution is now in progress. As I expect you know, research on foot-and-mouth disease is in progress at a special station maintained and supervised by a technical committee at a cost of nearly £17,000 a year. A substantial advance has been made in knowledge as to the best methods of limiting the spread of the disease, but meanwhile the policy of slaughter which has been adopted as the most effective and economical for stamping out the disease in the present state of pathological knowledge, has at least succeeded in securing for this country a much greater freedom from the disease than is experienced in those countries which have not adopted that policy. (Applause.)

For example, this country has been free from foot-and-mouth disease for seven months until an outbreak in West Sussex this month. In this work the veterinary practitioner's responsibilities are heavy as it often falls to his lot to notify the first signs of disease in any locality. Altogether the Ministry's grants in aid of veterinary research amount to something in the neighbourhood of £50,000 and in addition to this there is the work promoted by the Agricultural Research Council which has been giving special attention to animal diseases for several years past and which is paying particular and increasing attention to the problem of eradicating bovine contagious abortion and the investigation of braxy, louping-ill and other diseases of sheep. It would not be right for me to leave the subject of research without a brief word on the helpfulness of the National Veterinary Medical Association in inviting its members to co-operate with the work conducted by the Agricultural Research Council and the veterinary investigations on braxy-like diseases.

The association has also collaborated with the Ministry in connection with these veterinary investigation officers who compose the Veterinary Advisory Services. Their duty it is to investigate into cases other than those of notifiable diseases. It is, I can assure you, a matter of deep satisfaction to the Ministry that such great assistance is being given in these and also in many other matters and especially in the investigations of the Poultry Technical Committee who are enquiring into the abnormal mortality in poultry stocks which I believe is estimated to cause an annual loss of several million pounds to the industry.

Turning now, if I may have a brief moment, to the question of veterinary education, it is true to say that the Ministry's interest in this is no less great, for we recognise that education is the rock upon which everything else must be built. A special grant of £150,000 has been made towards the reconstruction and re-equipment of the Royal Veterinary College, while the annual grant towards the maintenance of the College is now double what it was ten years ago. (Cheers.) The whole question of the maintenance of the College after rebuilding as well as that of other centres of veterinary education is to be considered by a committee whose personnel and terms of reference the Minister hopes shortly to be in a position to announce. Further, the committee will probably be able to review the whole field of education including the question of present and probable future demand for and supply of qualified men. (Hear, hear.)

The activity of the Ministry of Agriculture would be of little service, however, if there was not a highly skilled body of veterinary practitioners up and down the country prepared and qualified to meet any situation that might arise and engage in safeguarding and improving the health of the animal population in their several districts. The Ministry is fully conscious of the help that is being so richly afforded and we confidently hope that this co-operation may continue. (Cheers.) May I say that in particular such co-operation will be invaluable in the efforts, which are at present in their initial stages, to fight bovine tuberculosis. As you are aware, cases of open disease are dealt with by compulsory slaughter under the 1925 Order and an attempt is now being made to establish a register of herds tested as free from tuberculosis so that a nucleus may be formed from which other herd owners may obtain clean stock. I will repeat that in this matter the support of the veterinary profession is quite indispensable. (Applause.) And I would take this opportunity of expressing the hope to those general practitioners that during the course of their daily rounds they will do all that is within their power to encourage owners to make use of the facilities that are now available. (Applause.)

Mr. President, your Association is representative of the many ramifications of the veterinary profession—the teaching staffs at veterinary colleges, veterinary surgeons in private practice, the staffs of the Ministry and of local

authorities; and I see that during the course of this week you are considering a wide range of subjects. It is my most earnest hope that the papers which you discuss will materially help in advancing veterinary knowledge, and in maintaining that onward march of knowledge in which you have never faltered. There can be no greater guarantee that the advance will continue than the existence of organisations of this character. The specialist services that your profession has developed find here the opportunity of establishing the co-operation with their fellows that is so essential, and above all they are enabled to co-operate with the general practitioner who with his wide knowledge of these problems and intimate local experience welds together your common experience.

I believe that this address in the name of the toast and the name I propose of your Association is similar to the purport of a story I heard the other day. A friend of mine many years ago went over to Ireland for the first time. He was greeted by an Irishman with an Irish horse that was old and decrepit. My friend asked to see the sights of Dublin and the Irishman took him round the town, and as they proceeded this horse was stumbling and could hardly get along at all. So my friend said, "This surprises me greatly. I am from Yorkshire and I always heard that the horses of Ireland were blood stock." And the Irishman replied, "Oi, sure they be, and this is the bloodiest of them all." (Laughter.)

Well, ladies and gentlemen, my toast may be interpreted either way (laughter), but I wish every success to your Association and to its individual members in the pursuit of your very noble task of promoting the welfare of not only animal life but human life. I ask you to rise and drink the toast of the National Veterinary Medical Association coupled with the name of your President, Mr. Barker.

The President (replying): On behalf of the National Veterinary Medical Association I thank you, Lord Feversham, for the very generous way in which you have proposed the toast and coupled my name with it. It is a very fine opportunity to have the new Parliamentary Secretary of the Ministry of Agriculture make his first speech in public in that post, before the National Veterinary Medical Association. It is also a very fine thing that he has gone so deeply into the subject and covered so much ground in so generous a fashion. It is true to say that the Government is interested in the education of veterinary surgeons. It is also true to say that practitioners and other people in the veterinary service in this country are interested in education at the schools.

As a practitioner I would like to see established in the schools more bovine and farming clinics with capable teachers so that we could run that service to agriculture which it may rightly seem to demand. Then with regard to research, it is quite true that we are all interested in research and we would ask that the research might be given a definite clinical bias; if it is to be demanded of practitioners that we shall take up veterinary science for economic reasons and for public health reasons, it is quite certain that that particular research should be given all practical means of support. (Hear, hear.)

You have spoken, my lord, about preventive medicine: I am sure that the National Veterinary Medical Association gives all its efforts to preventive medicine. We feel that the problems outlined by the Gowland Hopkins report, namely, tuberculosis, mastitis and bovine contagious abortion are no longer problems of veterinary science but that the application and hitching up of veterinary science to the purpose of the eradication of these diseases is what is lacking, and that possibly the means and methods of control and prevention of these diseases are well-known to veterinary science. It is therefore a very great pleasure to us that you have met us this evening so that you may go back and speak to those people who have the authority and the necessary will to direct the veterinary profession in preventive medicine. I do not think your authorities will find us lacking. (Cheers.)

I do not know many good stories. You, my lord, spoke of an Irish horse. I understand that it is your pleasure to be the owner of the winner of the Irish Oaks in Silversol, a mare by Solario. I am quite sure it was not that mare your friend saw in Ireland and if it was it is a poor job for the progeny when she goes to stud. But I know I am expressing the wishes of all here to-night that it may be your pleasure to breed a Derby winner or a true Yorkshire winner of the St. Leger from your Silversol. (Applause.)

Ladies and gentlemen, I thank you for the way you accepted this toast; you, my lord, for the way you have proposed it. (Cheers.)

"THE LADIES"; "OUR GUESTS," AND "THE CHAIRMAN"

Mr. H. W. Steele Bodger, in proposing "The Ladies," observed that they were fortunate in having the toast of "The Ladies" promoted on the toast list: usually it had come after that of "The Guests." After all, they were pleased to have the guests but who were the guests compared with the ladies? (Laughter.) He had no doubt that in another year or two "The Ladies" would be the first toast after "The King."

Continuing in very humorous vein, Mr. Steele Bodger went on to argue that much credit was given to men which should not be, and to declare that Alderman Pindar knew what he was doing when he took a Yorkshire farmer's

daughter to be his wife, and to ask if they thought their own President would be where he was but for the fact that Mrs. Barker was his wife. Did they suppose for a moment that his friend, Major DeVine, was made President of the Society of Veterinary Officers for his own sake? "Now, if it had not been for my wife, I might have had a whole-time appointment," added the speaker, amid much laughter.

Proposing "Our Guests," Mr. H. T. Matthews said: Dr. Wooldridge has been reading up and giving us a little history—"1066 and all that." Mr. Steele Bodger gets in a little love interest. Let me start with a little literature.

Many of you will be familiar with Priestley's book "The Good Companions." It opens with a description of what he calls the backbone of England—the Pennine Range. I travelled to this congress in good company across the backbone of England and over Winifred Holtby's "Broadacres" to come here and meet all you "Good Companions." To-night, in particular, we have sunk all our differences, forgotten our disputes—until to-morrow!

And to enhance the atmosphere of good fellowship we have invited a number of guests to share our festivity. There is a long line of distinguished names of our guests to-night. They represent Westminster and Whitehall, local government, agriculture, medicine, the law, and, of course, they represent themselves, and we welcome them here as good fellows all. There are two names associated with this toast, Mr. R. H. Turton, M.P. for Thirsk and Malton, and Dr. Lethem, of the Ministry of Health. These are among the makers of our laws. It was extremely pleasant to hear his lordship tell us how very greatly we were appreciated in high places, and we do hope that Mr. Turton was listening carefully and will remember that, when next the opportunity arises in Parliament to give us a little of that latitude and authority which we would now like, to take our place in the public health of this country. Dr. Lethem some of us have already heard as a critic where he was not able to have the last word. May I invite him in his reply to continue his criticism, because we are at a stage in our development where constructive and friendly criticism is valuable, and Dr. Lethem is in an eminently good position to know what our profession lacks, just as he ought to know some of our good points.

Mr. R. H. Turton, M.P. (responding): In the East there is a very ancient but effective piece of wisdom: an inquisitor at a certain stage in the evening asks, "Which would you rather have—a million of money or nine daughters?" Now the fool always answers, "A million of money" but the wise man chooses the nine daughters because he 'wants no more.'" (Laughter.) I rather feel at this stage of the evening that many of you have got to that standard of choice and I would have replied to this toast with the very effective words "Thank you very much" had it not been for the invitation of Mr. Matthews. As he says, Lord Feversham, speaking as Parliamentary Secretary to the Ministry of Agriculture and a member of the Front Bench of the upper House of Parliament, has voiced his appreciation of your profession. And it rather becomes me, speaking from the hindmost Bench of the lower of the Houses—(laughter)—to add my word in unison. I would like to say, not only as an M.P., but as representing many thousands of farmers and also as representing myself as a farmer, how very much we are indebted to the veterinary profession for their work in and out of season.

I often wonder why when there are so many more animals than human beings, the medical profession seems to have stolen the first place in the craft and I think you ought to draw your lesson from that. The medical profession are very good union men; they get their notoriety a good deal from the mere support of the British Medical Association and their disciplinary measures under the British Medical Council, and I do invite you to consider what strength you could gain from the support of your Association. At the same time, I think you ought to look at what is happening in the other craft. One of the members has told us that owing to measures of remedial cure adopted by doctors, in 200 years the population of this island will have fallen to six million persons. Well, this is not a very good advertisement for the medical profession. At that time if our livestock increases as it has been increasing, as the pigs in Yorkshire and the dairy cows throughout England have been increasing, we shall have far more animals than people and we shall be inviting our children to drink about two gallons a day—otherwise agriculture will be in a bad way.

I notice from Scarborough has come an encouragement of the policy of slaughter. (Laughter.) I would just like to say this one word on the policy of slaughter. I quite agree that at the present time if a disease masters one one has to slaughter. But I cannot feel that that is the last word. I think our grandchildren will look back on us as at a transition stage when if we have a beast suffering from foot-and-mouth disease not only that beast and the others surrounding it but every beast on the farm has to be slaughtered. How would any of you like it if you went to your doctor and your doctor said you were suffering from influenza and added, "Right. You shall be executed, and not only you but everyone who lives within the precincts of your residence"? (Laughter.) I think there we have to make great strides in this profession; and I think really the blame is not upon the veterinary

officer nor upon even the Minister of Agriculture whom every member of Parliament and every farmer always likes to blame whenever an opportunity occurs. The blame is really upon the farmer. We do not visit the veterinary surgeon early enough and I think as a farmer we have to teach our brother farmers that an early visit is of great importance. (Hear, hear.)

Lord Feversham has spoken of the number of diseases that are the worry of the agricultural community. In all these I feel sure that a great deal can be done if we appeal to the veterinary surgeon and learn the answer. I would like to stress to the community at large how important it is to keep that link with the veterinary profession, not only so that we may have the advantage of your very pleasant evenings at your annual Congress but in the daily life of the farmer, and that we shall thereby overcome those diseases that are causing us great anxiety.

I thank you most sincerely for your hospitality and for the welcome you have given to all of us, and, may I add, the very happy way in which Mr. Matthews has proposed this toast.

Dr. Lethem, who also responded, in a speech which included many after-dinner stories, said: I was particularly glad to be invited to attend this Congress as your guest and especially when I heard it was to be held at Scarborough. I am pleased to stand here in the position of a critic but my criticism is one of my own ignorance when I have attended your meetings and have been impressed with the extraordinarily high standard of scientific knowledge displayed in the papers and in the debates afterwards. But it is a long way before the knowledge displayed at a Congress like this filters down to the agricultural world. Like many of the guests I was particularly impressed with the demonstrations and operations shown on Tuesday afternoon.

Major D. S. Rabagliati, proposed "The Chairman," remarking: At this late hour and having listened to so many and such excellent speeches I would not rise to inflict any words of mine upon you except that I have a most important task allotted to me: that is to propose the toast of "The Chairman." I think most of us and probably all of us who have been at the Congress have read the Congress handbook and you may be surprised to see this toast put on the toast list because you would have expected instead of a toast, "See Congress handbook, chapter 1." I think the reason why it has been thought that this is not sufficient is that the character of our President cannot properly be described in cold print. I think you will all agree with me that the success of any business, any administration, or any Association or conference such as this very largely and chiefly depends upon its head, and I am sure you are also at one with me in asserting that the very great success Congress has achieved up to now, and I am sure will continue to achieve to the end, is very largely due to our President. (Cheers.)

I understand the numbers at this Congress are in excess of all others that have ever been held before, and I leave it to you to make up your minds as to whether the wonderful amenities of Scarborough, about which we have heard so much—even including the free services in which Dr. Wooldridge is so much interested — (laughter) — are responsible or whether it is the affection and the great respect we have for the President of this Association. I think one of the most important points in the success we have achieved since we have been here is the feeling that it has been due to the influence of our President over our discussions, and also over all our social entertainments. He has made himself felt although he has not been heard unduly. When I say this I do not for one moment detract from the most excellent work the Chairman of our Provisional Committee has done and the almost superhuman efforts which the local secretary has put forward.

But I do feel that our President, who is the head of this Association, is largely and chiefly responsible for the very great success. Those of us who attend and work on the committees of the "National" know the enormous amount of work that has to be done and which is all supervised by our President; and you must know that in those committees and during the work he is not the same man that we have seen during these most pleasing social entertainments. I am sure our committee members will agree with me in saying he is almost an autocrat and, if he considers our services are required for the good of the Association, hardly considers our personal convenience at all. I noticed, however, that at a certain point this evening there came a sudden change in his demeanour and you had an extraordinary smile which I feel was a smile of satisfaction that the duties of his Presidential year of office were nearly over and that it was the beginning of the end of work which he must have known was very well done. (Cheers.)

Captain Barker is a man of very strong convictions and whether we all agree with him or we don't—we don't always—he holds steadfastly to those convictions with the same strength of character that he does even if we do agree with him. I ask you to rise and drink to the health of our President, Captain Barker, coupled with the name of Mrs. Barker, to whom we owe a good deal more than many of us realise.

The toast was drunk with enthusiasm and musical honours.

The President, replying, said: I feel, of course, very conscious of my position now that

my year of office is nearing its termination. I feel I am ready to go back home and work in my ordinary capacity of a private practitioner. It is indeed very pleasant for my wife and I to be before you to-night, each of us being the child of a veterinary surgeon and being indeed fortunate that we have at least one boy who looks like following the profession. (Hear, hear.)

You, Mr. Steele Bodger, have said that I would not be here if it was not for my wife. It is quite true that I would not have been able to accept this position; indeed, I did not accept it until I had telephoned home from Belfast to my wife to see if she would support me through this year of office. This Congress, as I said before, seems to be acquiring a momentum towards success, and it has been suggested that I might have had some hand in the success of the conference, and that I may be somewhat autocratic.

Well, the position occupied by the President in the "National," I have felt, has been somewhat lonely, and lonely men sometimes tend to be autocratic, though to-day I think we have taken steps to rectify that by handing over the affairs of the Association to Captain Simpson. I am fortified in that opinion by reason of the fact that we have an excellent staff, we have an excellent general secretary, we have an excellent hon. secretary and an excellent hon. treasurer. Although your President has heavy responsibilities he cannot accept them without a very good Provisional Committee. We have as Chairman of that Committee, Mr. Powley. The individual members of that Committee I will not mention in detail but I just wish to thank them for all the work they have done.

In addition we have an excellent local secretary who also has a wife and I am told that, but for her, he would not have been local secretary. To these people you should render your thanks for the success of this conference rather than to myself. I thank you, ladies and gentlement, for the way you have received this toast.

Mr. J. O. Powley, Chairman of the Provisional Committee, called upon to say a few words, observed: "I can only say it has been my pleasure to exert my efforts to promote the success of this Congress and with the continuous help of the local secretary and the assiduous way in which he has carried out the duties which I have thrown upon him, I think I may say we have succeeded. (Hear, hear.) I do not wish to detain you any longer but just to say thank you for your kind words."

Mr. E. F. McCleery, Chairman of the Local Committee, responding to a chorus of "We want McCleery," said: "When I came into the room this evening I was under the impression I would not have to speak; I did not intend to speak. While the duties have been rather heavy I have enjoyed them and I am not, as would appear from what has been said, entirely responsible for the success of the conference—not by a long way. Mr. Powley has done a great deal more running about the country than I have. My work has mostly been confined to writing letters and answering questions, and the other members of the Committee have all taken part.

"More particularly, however, I would mention the tremendous amount of help I have received from Mr. Knight and his staff in London. When I took on this duty I was absolutely innocent of what it meant, but Mr. Knight and his staff saw to it that I had every help that could possibly be given and I say quite candidly I could not have carried on at all had it not been for his help, and also, as referred to by Mr. Steele Bodger, the help of my wife."

The enjoyment of a cabaret entertainment and dancing brought a most successful evening to a close.

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EXCURSION TO RAVENSCAR

The outing arranged to Ravenscar for Thursday afternoon made a welcome break in the particularly full series of meetings and discussions which, with the exception of Monday afternoon, had been a continuous and heavy programme.

The event was blessed with fine if not sunny weather. Starting outside the Grand Hotel, the first goal of the party, which comprised about 150 members and their ladies, was Oliver's Mount—a flat-topped hill overlooking the south of the town. On this hill stands a stone obelisk 75 feet high, Scarborough's tribute to those who fell in the Great War. The Borough could not have chosen a more fitting position for its War Memorial and the company were well repaid for leaving the coaches here for, from this point, a wonderful view is obtained not only of the town of Scarborough but also of the harbour, the north and south bays and the sea beyond and of the castle which overlooks the bays.

Continuing through East Ayton, the party next passed through the famous Forge Valley (the name is said to be derived from an old monastic forge). This is indeed a beautiful glade one mile and a half in length, formed by the course of the River Derwent, the thick woodlands rising on steep slopes on each side of the road which leads on to the village of Hackness.

Hackness at once strikes one as a model village. It is built entirely in stone and when the coaches stopped at this point it was hoped that a small amount of time would be available to explore it further but this was not possible. Features of this justifiably-famed "beauty spot" are the ancient church and Hackness Hall overlooking an extensive lake with gardens and a

glorious park, the whole surrounded by lovely wooded hills. Hackness Hall is the seat of Lord Derwent. Unlike the church, it is not old; the original Hall was destroyed by fire in 1910 and has been rebuilt since that date on a more imposing scale.

From Hackness the trip continued across Silpho Moor and down a very steep hill from the summit of which a gorgeous view is obtained. Somewhere near this point the coaches left the beaten track for Harwood Dale —so much so, that it was necessary for the first coach to open at least six gates and there were only inches to spare to permit of the passage of coaches. Very soon this led us on to the Yorkshire Moors, from where we finally turned into the main road for Ravenscar.

Ravenscar overlooks the sea and is the site of an old Roman camp dating, it is supposed, from about 400 A.D. By this time everybody was ready for the good tea which was waiting at the Ravenscar Hotel.

Here was the one disappointment of the excursion as, owing to a thick fog, the party were unable to see the view which is said to be one of the finest in the North of England. However, we explored the extensive, well laid out gardens of the hotel and viewed the elaborate large sea water open-air bathing pool it also boasts.

Not Swimming Weather: At the Ravenscar Hotel Pool

The local executive which, throughout the Congress, had left no stone unturned for its success, had even made provision on the trip for those members who found themselves quite unable to break away for a single moment from a busman's holiday. These particular members were found intently discussing spaniel points with the hostess on the tennis lawn and critically examining specimens from her kennel while others were intent on the small pedigree tuberculin-tested Jersey herd which the landlord runs in conjunction with the hotel.

"Time up." The coaches were just about to start on the return trip to Scarborough when a member in the first coach reported that his wife was missing. This would have been a terrible ending to such a happy afternoon so, after sympathetic consultation with the husband, an S.O.S. was quickly circulated to the other coaches, when it was found the same applied to a few other members of the party. Just when the tension was at its height several breathless figures could be seen emerging through the fog, coming from the direction of the sea. As soon as it was recognised that these were the lost members of the party a spontaneous cheer of thankfulness and encouragement went up from the remaining members already safely seated. "All's well that ends well" and as these missing members were somewhat unceremoniously hauled into the coaches the party was able to proceed on its return trip by the main road to Scarborough without further incident.

Looking back over a series of years, one can recall many beautiful and memorable Congress outings but in no case can the writer recollect a trip where in such a small compass of miles one passed through such a diversity of scenery. Starting with the flat arable country just outside Scarborough, there were the finished woodlands of the Forge Valley and, later, the wood-covered hills with the underlying fertile valleys said to be characteristic of Yorkshire scenery, together with the stately village of Hackness—the whole reminiscent of old English pastoral life. Within almost a stone's throw of these one suddenly passes on to either the Silpho or Yorkshire Moors with their magnificent stretches of heather and wonderful views beyond and the rugged coast line of the sea.

Those responsible for the arrangements are to be congratulated upon giving those of us with a limited space of time wherein to see the district such a varied trip packed into one afternoon.

O. V. G.

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LADIES' GUILD DANCE

The dance organised by the Ladies' Guild in aid of the Victoria Veterinary Benevolent Fund and which has happily become a standing feature of our Congresses, is certain always to rank high among the social events in point of

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enjoyment if only because it "possesses something that the others haven't got" in its object —the alleviation of distress amongst those who have a very strong claim upon our sympathy.

It is with particular gratification, therefore, that we record that the dance held at the Royal Hotel, Scarborough, on the Thursday evening (September 17th), was a huge success. Over 200 dancers joined in the fun and Mr. Steele Bodger made such an exceilent and untiring M.C. that any minor degree of achievement would have been unthinkable. Several members of the company gave much pleasure with admirably-rendered vocal contributions, while Colonel Simpson invented a new method of extracting the nimble sixpence from gentlemen's pockets by offering a dip in his bag for used golf balls, and in one corner there was a ready sale of tickets which resulted in a handsome prize being won by Miss Powley, to everybody's delight. Dancing continued until 2 a.m.

During the evening "spot" prizes were awarded. Mrs. Wragg, President of the Ladies' Guild, presented the prizes and Dr. Bullock took the opportunity to bring home to all present the good work that the Victoria Veterinary Benevolent Fund is doing.

Before the proceedings closed, a small present was made to the President, Mrs. Wragg. In her reply she said: "On behalf of the Ladies' Guild I have to thank you for your attendance to-night and for your very generous support. We are indebted to Mrs. King, Mrs. McIntosh, Mrs. Male and Mrs. Wooldridge, who have very kindly given the prizes awarded at the Dance. We appreciate this help very much, for it has enabled us to raise a very handsome sum for the benefit of the Victoria Veterinary Benevolent Fund. We thank them very much. I also have to thank the ladies of the Guild for their present to me. It will always remind me of a very happy year of office."

From the sale of tickets, collections, etc., the dance realised the splendid sum of £100.

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A Popular Trio
(Mrs. J. R. Barker, Mrs. J. R. Rider, Mrs. G. H. Locke)

VICTORIA VETERINARY BENEVOLENT FUND GOLF COMPETITIONS

These competitions, which are held annually, during Congress week, were played off on the Filey Golf Course, near Scarborough, on September 17th. This course was found to be in excellent order, and those taking part in the competitions enjoyed a welcome interlude in delightful surroundings from the more serious business of the Congress and its attendant social functions.

For the "Simpson" Trophy, which was decided on medal play, there was an entry of 20, which was in excess of last year's entry. The winner was Major F. Chambers, *O.B.E.*, Wolverhampton, with a net score of 70. Major Chambers, who retains the trophy for one year, also received the silver medal presented by Dr. Bradley. The runner-up was Mr. W. J. Ironside, Loughborough, and he received a silver spoon.

The ladies' competition for the "Dunkin" Trophy was played on the same course during the morning of September 17th. The entry, however, was disappointing, and it is hoped that many more ladies will endeavour to play next year at Bournemouth. The winner of the trophy was Mrs. McNabb, of Belfast, after a tie with Mrs. Barrett, of Margate, which was decided on the last nine holes. The latter received the second prize for the runner-up, which was given by Mrs. Andrews.

The trophies and prizes were presented by Mrs. Barker, wife of the President, during the Benevolent Fund Dance. A sum of £6 has been handed over to the Benevolent Fund as a result of the two competitions.

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R.C.V.S. CENTRAL LIBRARY FOR ANIMAL DISEASES

Following are some recent acquisitions by the above Library:—

Schmaltz, R. "Entwicklungsgeschichte des tierärztlichen Berufes und Standes in Deutschland." 1936.

Ministry of Agriculture and Fisheries. Fowl paralysis. 1936. (Advisory leaflet.)

Pullinger, E. J. "The influence of tuberculosis upon the development of *Brucella abortus* infection." 1936. (Reprint from *Journal of Hygiene*.)

City of Leeds. Annual Report of Medical Officer of Health for 1935.

Civil Veterinary Department, Punjab. Government breeding at the Government cattle farm, Hissar. 1935.

University of the State of New York. Report on higher education for 1933-1934. 1936.

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A catalogue of the books in the Library published since 1900 is now on sale, price 1s. post free. Remittance to be sent with order to the Secretary, R.C.V.S., 10, Red Lion Square, London, W.C.1.

The Exhibition

NOTABLE DISPLAY OF INSTRUMENTS, DRUGS AND OTHER PRODUCTS

It is happily possible to write, this year, without any reservation, of the entire satisfaction uniformly given to our friends the exhibitors at Congress by the measure of interest displayed in the splendid exhibition of surgical instruments, drugs, etc., which they were at such pains to make as tastefully effective as possible and which was fully representative of the most recent advances in veterinary appliances and products. The Harrison Room at the Public Library, where the exhibition was staged, was, in fact, a serious rival to the Lecture Room throughout the week, for while it was something of a social centre between the sessions, many a delegate failed to be proof against its attractions when, strictly speaking, his presence was demanded elsewhere. We are glad to know that the unremitting efforts of the representatives of the firms concerned both to supply all needs and enlighten all enquirers yielded results—either immediate or potential—on a gratifying scale.

Opening by the President

Following the Civic Welcome on the morning of Monday, September 14th, the Conference adjourned to the Harrison Room, where the President formally opened the exhibition.

Remarking that it was a privilege to look round and see the room occupied as it was now, the President said that a few weeks ago he had been at Scarborough seeking a suitable spot where they could hold that exhibition, handy to the Conference. That room was then full of specimens—much more so than now,* and the Librarian, Mr. Smettem, a very fine man, was also there. He had worked like a Trojan to get that place anything like shipshape, and also to accommodate the stands of some of those who were exhibiting.

"We are very much indebted to him and also to those people who have taken the trouble to stage such a beautiful exhibition as we have here," continued the President. "I avoid the use of the word 'trade' because this is not quite, in the explicit term, a 'trade' exhibition. These firms are ancillary to our profession, and a great many of them I can remember for the whole of my life. Many of their travellers are amongst the first people I can remember: I would not like to mention the names of quite a number of them whom I can recollect as visiting my father when I was a little boy. (Laughter.) So they have some tradition of service to the National Veterinary Medical Association and its members, and I hope you will appreciate the efforts they are making on your behalf. (Applause.) I have great pleasure in declaring the exhibition formally open."

On behalf of the exhibitors, Mr. S. D. Curwain (British Glues and Chemicals, Ltd.) presented a bouquet to Mrs. Barker, who described the compliment as a very pleasant surprise and expressed her thanks.

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Anglo-American Pharmaceutical Co., Ltd., Galen Works, 59, Dingwall Road, Croydon, had on view an effectively arranged exhibit comprising medicines and preparations for dogs and other animals generally, including pessaries, bougies, powders, drenches, etc. There was a fine range of good-class products in great demand by the veterinary profession.

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Messrs. Armour & Company, Ltd., of Armour House, London, E.C.1, had on their stand a full range of "Glanoid" medicinal products of animal origin, which included: anterior pituitary and thyroid for the treatment of sterility in mares and cows; spleen extract in the treatment of canker, grease and eczematous conditions; suprarenalin solution; sterilised catgut ligatures, and sterilised catgut sutures fitted with eyeless needles.

A range of explanatory literature was available, and also will be posted to any veterinary surgeon who makes application direct to the head office at Armour House.

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Arnold & Sons, Standard Works, Lawrence Road, Tottenham, London, N.15, had a stand of surgical instruments and veterinary appliances showing a vast range. We are glad to learn that this exhibit was very much appreciated by the members present, who were greatly impressed thereby, and that good business resulted. The exhibit consisted of over 1,000 different kinds of instruments generally used in the veterinary profession.

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Baillière, Tindall & Cox, Ltd., 8, Henrietta Street, Covent Garden, London, W.C.2, publishers of most of the better-known veterinary works in England, exhibited a very large range of books issued by well-known houses both in this country and in America. Among the books that sold best were the newly-issued 3rd edition of Bullock's "Handbook for Veterinary Surgeons," the 6th edition of Banham and Young's "Veterinary Posology," Monnig's "Veterinary Helminthology and Entomology" and Ostertag's

*The Harrison Room normally houses the largest and finest single-man collection in the world of the heads of wild animals.

"Meat Inspection." A very lively interest was shown, once again, in Miller's Veterinary Dictionary, a work which has achieved the reputation of being virtually a necessity to the veterinary practitioner.

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British Glues & Chemicals, Ltd., Imperial House, Kingsway, London, W.C.2 ("Churn" Brand Mineral and Protein Supplements), state that the purpose of this year's exhibit was to draw especial attention to the progress that has been made since this concern first exhibited at the N.V.M.A. Congress at Dublin in 1926, when great interest was shown by members of the profession in the then comparatively new science of supplementary mineral feeding.

The manufacture of "Churn" Brand sterilised feeding bone flour as a source of the elements calcium and phosphorus and the complete mineral mixtures compounded therewith, was first commenced in 1923 and these products are now in very general use in the mineral supplementation of stock rations.

Whilst a great amount of experimental and research work has been carried out and a volume of evidence has accrued (much of which has been and will be challenged), it is recognised that as yet the existing knowledge of nutrition does not permit of the dogmatic setting out of the requirements of stock in various conditions and circumstances and much further work must be done before we can approach this stage. To those veterinarians who are prepared to interest themselves in this subject and to supervise trials in conjunction with B.G. & C., Ltd., this concern extends an invitation to co-operate, they themselves being willing to facilitate this work wherever possible so that a still wider knowledge and experience of the actual mineral requirements of stock may be gained and appreciated.

Attention was also drawn to the "Churn" Brand meat proteins, of low oil content, as now in general use in the compounding of complete rations. Here again the manufacturers will gladly send full details to those interested.

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Burroughs Wellcome & Co., Snow Hill Buildings, London, E.C.1, provided, in their exhibit, striking evidence of the continued progress of veterinary science.

One of the most interesting developments in veterinary immunisation is represented by the production of "Wellcome" tetanus alum precipitated toxoid, specimens of which were on view. It has been shown, as a result of work carried out at the Wellcome Physiological Research Laboratories, that this preparation confers long-lasting immunity of a very high order. Proof of this is the fact that the serum of horses, tested three weeks after treatment with the toxoid, was found to contain an average of more than 1 unit of tetanus antitoxin per c.c.—an amount well in excess of that necessary to prevent infection.

As a result of researches carried out by the staff of the Wellcome Physiological Research Laboratories, it was first shown that lamb dysentery can be prevented by injecting ewes on infected farms with "Wellcome" lamb dysentery prophylactic (vaccine) and by injecting lambs with "Wellcome" lamb dysentery serum. Specimens of both products were shown, together with a chart, based on field results, demonstrating in graphic manner the protection afforded by their use.

Other serological exhibits included diagnostic tuberculins and products for the prophylaxis and treatment of braxy, blackleg, infective jaundice of dogs, swine erysipelas, canine distemper, bovine epizoötic abortion, and fowl-pox.

In addition to the comprehensive range of serological products (which are prepared at the Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent, and distributed by Burroughs Wellcome & Co.), there was on exhibition a selection of the pharmaceutical products prepared for veterinary purposes by this firm. A notable exhibit was that of "Wellcome" Brand calcium borogluconate, for the treatment of milk fever by the method evolved by Dryerre and Greig. A series of photographs of cows in stages of the disease and recovery conveyed an idea of the efficacy of the treatment.

Products for use in veterinary obstetrics were represented by "Infundin" pituitary (posterior lobe) extract, and preparations of ergometrine and of ergotoxine ethanesulphonate. It is of interest to note in connection with ergometrine that highly successful results have been reported from the use of this preparation in canine practice. Amongst other exhibits of moment to the veterinary practitioner were displays of "Wellcome" Brand chemicals, "Enule" suppositories and veterinary bougies, "Soloid" products, and "Agla" hypodermic injection apparatus.

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Genatosan Ltd., Loughborough. This well-known firm exhibited vaccines, sera and diagnostics produced in the Pasteur Institute (Paris), the Toulouse Institute of Serum Therapy, and the Laigle Bacteriological Laboratory. Some of these products have stood the test of time (*e.g.*, Pasteur's original Anthrax Vaccine); others are more recent, but improvements in composition and method of manufacture are made from time to time as a result of field and laboratory tests and suggestions made by veterinarians.

C. J. Hewlett & Son, Ltd. (Charlotte Street, London, E.C.2), had a most interesting and comprehensive exhibit of surgical instruments, drugs and pharmaceutical preparations.

The presence of Mr. Robert Mitchell, M.R.C.V.S., who demonstrated the use of his mouth gag, tooth extractor and firing iron, attracted the attention of the members. The advantages of these over older patterns were fully explained and appreciated.

Mr. C. W. Elam's method for the surgical treatment of haematoma of the ear was well illustrated by a specimen ear of a dog, showing the circular holes effected with Elam's ear punch, made through the skin on the inner side of the lobe of the ear. This technique was described in the *Veterinary Record*, December 28th, 1935.

Among other instruments introduced by Messrs. Hewlett at the suggestion of members of the profession was a canine tooth scaler, strong and useful; a medicine spoon of special shape, made of stainless steel and suitable for dogs and cats; Elphick's surgical instrument tray, which has won the approval of the medical as well as the veterinary profession; Ryan's obstetric ropes, which have been found useful both at home and abroad, and a "Quick-ref" clip for fixing on the dash of the motor car, holding a number of sheets of paper for notes, list of calls, etc. The V.P. surgical bag, specially designed for the veterinary practitioner so that every item is immediately visible and accessible on raising the lid, brief bags and a motor car emergency case were also displayed.

Special attention was drawn to Hewlett's "Neo-injector," which was introduced to facilitate the injection of calcium boro-gluconate. The researches of Drs. Dryerre and Russell Greig having proved the advantages of this preparation in the treatment of milk fever, experience has shown that veterinary surgeons have adopted calcium therapy to an increasing extent and with satisfactory results. In addition to calcium boro-gluconate, Messrs. Hewlett supply calcium gluconate, but the firm's special preparation is inject. calcii boro-gluconate. (Hewlett's), which is supplied in a 20 per cent. sterile solution in amber bottles with india-rubber caps in sizes varying from 1 oz. to a Winchester quart. It keeps indefinitely and is always ready for use. The favourite dose for cattle appears to be 400 c.c. For dogs, 10 to 40 c.c. is administered according to body weight.

Among the new pharmaceutical preparations were a liniment for mange, prepared from the formula supplied by Mr. Henry Gray, M.R.C.V.S., and a compound belladonna lotion by Mr. E. J. Lainé, M.R.C.V.S., for inflammation of the udder. Both preparations have been welcomed by the profession and have fully justified their introduction. Tablets "Co-Cerevisiae" are compound yeast tablets with vitamin B and have been most successful in the treatment of septicaemia and hysteria in dogs. They are a food tonic and palatable. Hormonigen tablets retain their popularity for endocrine deficiency in dogs and cattle.

Mist. hexaminae co. was shown, as it has proved a successful remedy for colds and chills; ung. pro mastitis or "summer weed" ointment for heifers and dry cows put out to pasture; old favourites such as parophyroxia for colic impaction, Ung. Iodermiol, the stainless and non-irritating iodine ointment, and many other preparations.

A particularly interesting display was made of "Ampuliques," the registered name for ampoules containing sterilised injections. Many different sizes were shown, ranging from the large 500 c.c. and 1 pint "Ampuliques" down to more familiar 1 c.c. and ½ c.c. sizes. Well-known remedies were represented by "Ampuliques": camphor in oil, morphine and atropine, manganese butyrate and pituitary (posterior lobe) extract, and others.

Among the newest introductions were colchicine "Ampuliques," for use in the treatment of carcinoma, sarcoma, etc., in dogs and other animals. These are made in 1:40 or 1:20 milligramme doses, but larger doses are supplied as required. There is also a 10 per cent. solution for external application. Literature on colchicine injections is available to veterinary surgeons, and also an interesting illustrated booklet dealing with over 100 "Ampuliques" and sterilised injections.

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Hough, Hoseason & Co., Ltd., Sun House, Bridge Street, Manchester, 3, although this was their first visit to a Congress, have been supplying the veterinary profession for over 30 years together with the largest medical clientele in the country. The prestige of this firm as medical manufacturers has been instrumental in their holding one of the Government contracts for a number of consecutive years, also the many hospital and municipal contracts they enjoy at home and abroad.

During the last few years their veterinary clientele has increased so considerably that they have had to extend their factory and now have a specialist staff to deal with the enquiries of veterinarians.

The following preparations, exhibited at the Congress, are certainly worthy of attention, judging by the results obtained by members of the profession: Scabine "C" (eczema and mange); Elixir. Chelidon. Co. (a valuable remedy in cystitis, nephritis, and prostate gland trouble); Tab. Chelidon. Co. (a new cholagogue

and urinary antiseptic) and Nalgo (Vet.) described as the universal antiseptic.

It is claimed that a trial of any of the above products will convince users of their efficacy, and readers are invited to send for price list.

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The International Serum Co., Ltd., Norwich, exhibited a wide range of veterinary biologicals.

Especial interest was shown in abortus-chinosol vaccine, a new type of vaccine for the prevention and treatment of bovine contagious abortion which has been used with considerable success on the Continent and is being increasingly employed in this country. For the treatment of pig diseases, swine fever serum, erysipelas serum, and swine-plague-paratyphoid serum were shown, and also "Suisan," a polyvalent sero-vaccine which has been found very useful in the treatment of diseases of young pigs. Other exhibits were lamb dysentery serum and vaccine, braxy vaccine, and haemorrhagic septicaemia serum for sheep.

For the treatment of canine diseases, distemper serum R.S.G., homologous distemper serum, and homologous coli serum were on view.

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Messrs. Parke, Davis & Co., 50, Beak Street, W.1. Upon this stand was displayed a representative selection of the firm's veterinary products, which included a full range of bacterins, sera, and organo-therapeutic preparations.

In addition to the purely veterinary products there was a number of their specialities which are applicable to human and veterinary use, particularly in small-animal practice. A selection of Parke, Davis & Co.'s well-known toilet products was also on view.

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Sandoz Products, 134, Wigmore Street, London, W.1. It was gratifying to see that Sandoz again occupied a prominent place in the exhibition and there was much in their exhibit that merited the careful atention of the veterinary surgeon.

Calcium-Sandoz, the original perfected calcium gluconate, again claims first consideration. This calcium salt was introduced to the medical and veterinary professions over a decade ago following pioneer researches in the Sandoz Research Laboratories. It is, say the firm, "the calcium salt on which veterinary practitioners can rely to produce satisfactory results, and at the same time to ensure freedom from drawbacks, in all the manifold indications for calcium therapy." Convenience of administration is a great feature of Calcium-Sandoz, particularly so in the case of the ampoules which are provided in sizes ranging from the large 300 c.c. ampoule-flasks of 20 per cent. solution, furnishing a single curative dose for the treatment of milk fever in cows, down to small 5 c.c. ampoules of 10 per cent. solution. Calcium-Sandoz was, of course, the calcium salt on which the researches of Greig and Dryerre on milk fever were carried out.

"*Calcibronat*" is a more recent development of the Sandoz Research Laboratories. It consists of calcium bromolactobionate, an association of calcium and bromine in which the calcium-bromine ratio is the optimum of 1 : 2. The sedative bromine effect is reinforced by the sedative action of calcium on the autonomic nervous system. The chief indications for "Calcibronat" therapy are canine hysteria and itching dermatoses. "Calcibronat" is exhibited in oral and injection forms.

Panthesine and Panthesine Balm are also products of proven utility in veterinary practice. Panthesine is a local anaesthetic which has been very extensively tested and has been shown to be of low toxicity and to provide perfect anaesthesia of long duration. Panthesine balm consists of an ointment containing 5 per cent. of panthesine incorporated in a non-irritant vegetable emollient base. Applied on wounds and locally inflamed areas, panthesine balm favours healing because, being both anaesthetic and basic, it relieves pain by interrupting the axon reflex and by modifying and regulating the pH of tissue.

Piroblue, introduced by the late Sir Arnold Theiler, presents a combination of a powerful parasiticide of the trypan blue series with cholic acid. The inclusion of cholic acid enhances the chemotherapeutic effect, diminishes the toxicity and prolongs the action, thus enabling a full therapeutic effect to be obtained from small doses of the specific dye. The chief indications for piroblue are bovine piroplasmosis and equine nuttaliosis.

Other products given prominent display on the Sandoz stand were lobeline, femergin and belladenal. Lobeline is a stable preparation of the principal alkaloid of *Lobelia inflata* and provides a very powerful respiratory stimulant in all cases of respiratory failure. The utility of femergin in veterinary practice lies in its powerful and lasting effect on the uterus. It is ideal for *post-partum* use. Belladenal is an association of the total alkaloids of belladonna with phenobarbital. It is a powerful antispasmodic and anticonvulsive, and, in addition, possesses great possibilities in the treatment of hysteria in dogs and small animals.

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T. J. Smith & Nephew, Ltd., Neptune Street, Hull, the makers of "Elastoplast," "Semiplast," "Elastocrepe" and "Cellona," were exhibiting for the first time. So gratified were they by the exceptional interest in these lines that was displayed by the profession that they intend to exhibit regularly.

Essentially for the general practitioner with an interest in surgery, their speciality products exhibited include *Cellona*—described as the incomparable plaster of Paris bandage for the setting of limb fractures in all animals, or for joint immobilisation. A special method of manufacture incorporates 90 per cent. plaster of Paris into each bandage which has unrivalled qualities for perfect cast formation, *viz.*, cleanliness, simplicity of preparation, ease of application and rapidity in setting. Cellona has entirely replaced the old-fashioned plaster of Paris bandage, and, for veterinary use, the bandage is identical in quality to those used throughout the country by orthopaedic specialists, hospitals and general practitioners.

Elastoplast products are too well known to call for a detailed description. Suffice it to say that their elastic and adhesive properties deserve the special attention of all practising veterinarians. As an ideal support, firm yet softly resilient, elastoplast bandages are, it is claimed, incomparable. Half-spread—*Semiplast*—bandages are particularly useful in the larger animals where direct adhesion to the affected limb is not desired, although adequate support is necessary.

Elastoplast Dressings of all sizes combine the above protective and elastic qualities, together with the incorporation of a suitable antiseptic pad, thus forming a perfect first-aid for the healing of all operative or accidental wounds. Further, their attractive appearance may be said to add to the prestige of the practitioner using them.

Elastocrepe bandages are non-adhesive, but give unusually firm support in the treatment of injured tendons, ligaments or joints without interfering with the local blood circulation. The natural elasticity of the yarns employed is enhanced after washing, so that these bandages may be used repeatedly before being discarded.

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Willington Medical Products, Ltd., Alpha Laboratories, Limes Place, Croydon (London), exhibited some forty products, features of their presentation to practitioners being — the provision of original containers, dignified printing, and modern methods of packing, with practitioners' names, addresses, telephone numbers, etc. The following preparations have special appeal and utility.

Canine canker lotion: glycerine, iodine, colloidal. Put up in patent amber bottles with elongated cannula extension, which permits the fluid to be dropped into the meatus.

"Canine" eye drops. Packed in similar flasks to above, facilitating accuracy of application: a single drop may be introduced, or more as advised.

"Antisepticene" Antiseptic (powder or tablets). Containing borate of phenol, salol, thymol, eugenol and benzoic acid. Freely soluble in water and non-toxic. This product is a solvent of mucine, cleanses pus pockets and is admirably adapted for the dispensing of lotions, sprays or douches for septic or inflamed conditions of the mucous membrane and for removing unpleasant odour from the skin after operations or parturition.

"Germicidal" Soap (fluid). A brilliant green, pleasantly perfumed preparation, non-depositing under varying climatic conditions, for sterilising the hands, arms, and skin, and counteracting hardening of the cuticle through contact with lysol or other caustic substances.

Liquid soap dispensers, for use with above four models, were exhibited to tone with surgery fittings: (*a*) Olive green glass flask, chromium brackets and fittings; (*b*) white opal chromium fittings; (*c* and *d*) two patterns in super quality flint bowls, mounted with stainless steel brackets and fittings which are trouble-free and will wear for years.

Parasiticides: (*a*) for canine wash. A new product packed in rectangular cases containing derris powder, pyrethrum, sulphur and thymol, pleasantly perfumed.

(*b*) Parasitic dusting powder. Similar in composition to above, packed in maroon rotary containers for the immediate destruction of fleas, lice and skin pests.

Various ointments, electuaries and dressings completed the display, all presented in a manner devised to save time, money and trouble to the busy practitioner. Samples, quotations and price lists are available on application.

Inasmuch as this firm are newcomers to our exhibition, note may be made of the fact that all sales are reserved exclusively to the veterinary profession.

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Willows, Francis, Butler & Thompson, Ltd., 89a, Shacklewell Lane, E.8, have, it would seem, found the secret of perennial growth; they were well to the fore as usual and appear to have discovered how to provide the profession not only with what they want but also with what they like and ought to like. Their compact and varied display was full of interest, combining the old and new in a remarkable way.

At the outset the vistor was confronted with the Duo-Ray Apparatus which provides at a very economical price the advantages of both Infra-Red and Luminous radiant heat applications, the instrument being fitted with alternative units for this purpose. This should prove extremely useful in small-animal practice. Willows have given special attention to modern theory regarding mineral deficiency

and showed "Dextro-Calcium," "Dextro-Mag.," "Gluco-Mag." and calcium boro-gluconate in various strengths prepared for immediate injection and also in powder form. Their calcium boro-gluconate appeared to be a particularly well-prepared powder, and the injection form in most convenient containers with the latest form of rubber caps, is a credit to elegant pharmacy. Their special injector for use with the above is the most simple and efficient we have seen.

Vaccines and sera—all of reliable makes—were much in evidence and we were gratified to hear that those of British manufacture prepared by the Veterinary Research Laboratories have already established a popularity second to none—due, without doubt, to their efficiency, which has been well backed by daily favourable reports and constant orders.

Amongst special preparations of this firm we noticed "Peristain" Willows, an excellent and readily administered powder to take the place of physic balls; "Piromuth" Willows, an intramuscular injection for proplasmosis, and "Bismolin" Willows, an extremely effective remedy for scour in calves as also for diarrhoea in dogs. Space forbids further details of their many specialities, tried and proved, but it suffices to say that there are few diseases for which they do not provide.

We also noticed that great interest was displayed in the surgical intruments shown and there were novelties worth examination. The demand for an inexpensive and efficient intradermal syringe we noted was well met by one of "Pyrex" glass "Record" type to take a dental needle. This syringe should attract every practitioner in view of the part tuberculin testing increasingly takes in the work of all veterinary surgeons. In this connection we may mention that Willows offer tuberculin —synthetic intradermal, as well as subcutaneous—from the Veterinary Research Laboratories and also Pasteur subcutaneous and intradermal.

We congratulate Willows on their exhibit and also on their success in retaining to the full the goodwill of the profession, secured and surely secure for many years.

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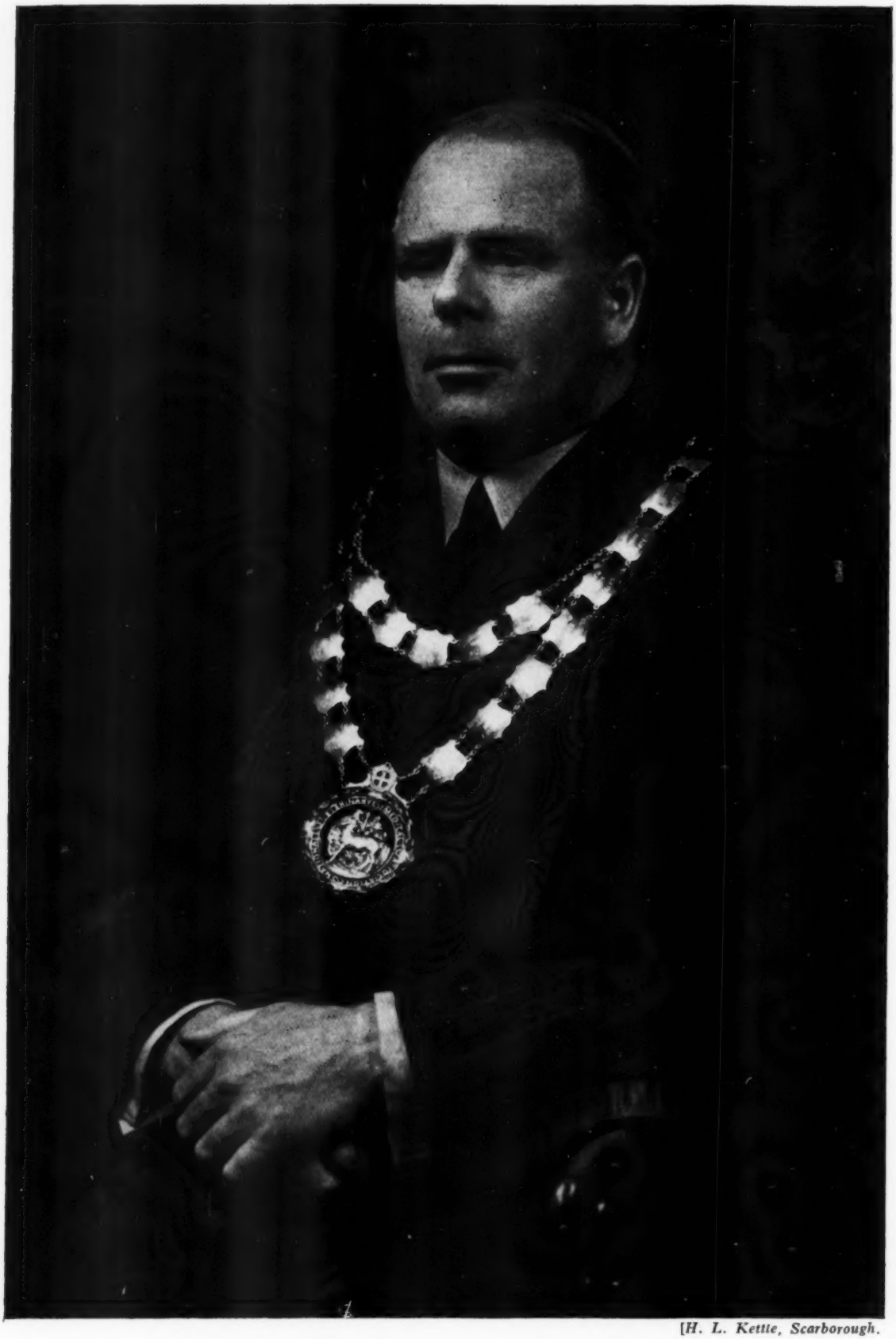
Charles Zimmerman & Co., Ltd., 9-10, St. Mary-at-Hill, London, E.C.3, displayed as a speciality, "Rakulin," from the laboratories of Impstoff-Werk, Friesoythe, Dr. Meiners & Co., Friesoythe, Oldenburg—a scientifically prepared inoculating fluid containing the unaltered antigen of the Bang bacillus, which, it is claimed, presents to veterinary surgeons a reliable curative treatment for contagious abortion. "Rakulin," it is stated, is preferred to live vaccine and may be used in tuberculin tested herds, inasmuch as, containing no living organism, it cannot bring about reinfection or sterility. Only the antigen is used in its manufacture. Its preference to dead vaccine is also emphasised because none of its properties have been killed by heat or chemicals. The dose of "Rakulin" is 60 c.c., given in two injections, each of 30 c.c., administered intramuscularly at 14 days' interval and it is asserted that if this "Rakulin" product is administered as directed contagious abortion can be kept under control.

There was also on view "Devatol A," claimed as the acknowledged remedy for impotence and sterility in all animals. It is equally suitable for the toy dog of two pounds in weight and the largest bull or shire horse. "Devatol A" is issued in tablet form in doses suitably prepared for these various animals.

A further production shown, Chinosol, has been recognised for many years as being as near to the ideal as any antiseptic for veterinary purposes. Its action is the arrest of the growth and development of pathogenic micro-organisms and their eventual destruction without injury to the life of the tissue cells. Chinosol in a solution of 1 in 2,000 is quite capable of arresting the development of various types of bacteria. Special packings are made for the veterinary profession.

CONTROL OF RABBIT INFESTATION BY THE USE OF A VIRUS

"Of all the pests from which the pastoral industry in Australia has suffered, rabbit infestation is probably the most serious economically, and little permanent success seems to follow the methods of control in use at present, such as trapping and poisoning," states *Nature*. "One hope would appear to lie in the discovery of some infectious disease, deadly to the rabbit but innocuous to man and other animals, and easily communicable to, and spreading widely by natural means among, the rabbits. Sir Charles Martin, as a result of an experimental inquiry, suggests that a disease 'rabbit myxomatosis' may fulfil these requirements (Commonwealth of Australia. Council for Scientific and Industrial Research, *Bull.* No. 96. Melbourne, 1936). This is an infectious, highly fatal, febrile disease caused by an ultra-microscopic virus, causing mucinous discharges, swellings and tumours in affected animals, fatal within twelve days or so, transmitted sufficiently by contact, and with a fatality of almost 100 per cent. It attacks animals of the genus *Oryctolagus*, to which wild rabbits in Europe and Australia, and domesticated rabbits in Europe and America, belong; but it does not affect the indigenous rabbits of America, or man and other animals and birds. Experiments were conducted by Sir Charles Martin in a pen measuring 50 yards by 10 yards, with both tame and wild rabbits. A colony having been established for three weeks or thereabouts, one or two rabbits inoculated with the disease were introduced. With colonies of 27 and 30 tame, and 55 and 44 wild, rabbits, the fatality was 99·6 per cent among the tame, and 100 per cent. among the wild. The disease originally came from epizootics among tame rabbits in South America."



[*H. L. Kettle, Scarborough.*

CAPTAIN ROBERT SIMPSON, F.R.C.V.S., D.V.S.M.

***President, National Veterinary Medical Association of Great Britain and Ireland,* 1936-37**

Biographical Article

ROBERT SIMPSON, F.R.C.V.S., D.V.S.M.

President, N.V.M.A., 1936-37

The unanimous election to the Presidential chair of Mr. Robert Simpson, of Carlisle, is a happy selection at this juncture in the affairs of the Association. He assumes high office at a comparatively early age, but he brings with him a tolerant outlook and the mellowed wisdom attained only by a lengthy experience in several branches of his profession, and a profound interest in its welfare.

Robert Simpson, a native of Midlothian, was born in 1893, and was educated at Daniel Stewart's College, Edinburgh. He is an alumnus of the Royal (Dick) Veterinary College, where his academic career was distinguished by the award of eleven silver and bronze medals. Graduating in July, 1914, Mr. Simpson was one of those who responded immediately to the national call. His service with the Mediterranean Expeditionary Force in Egypt and Palestine received the recognition of a mention in despatches, the 1914-15 Star, and the British War and Victory medals. He was granted a Regular commission in 1917, but was placed on the retired list in 1919. A period of post-graduate study followed, at the end of which Mr. Simpson was awarded the Fellowship Diploma of the Royal College of Veterinary Surgeons, and a month later, on June 25th, 1920, he was among the first recipients of the newly-instituted Diploma in Veterinary State Medicine. The next four years were divided between the Scottish Board of Health and the Ministry of Agriculture. In the former employment he was engaged in the inspection of methods of milk production, and the clinical examination of dairy cattle in connection with the issue of higher grade licences to milk producers. His service with the Ministry of Agriculture gave him valuable field experience in the control of foot-and-mouth disease and other scheduled diseases. In 1924 Mr. Simpson received his present appointment, that of Chief Veterinary Officer for the County of Cumberland. In 1935 he was a recipient of the medal awarded to commemorate the Silver Jubilee of His late Majesty King George V.

The new President's contributions to veterinary literature have included papers on public health subjects read before the Congresses of the N.V.M.A. and of the Royal Sanitary Institute. He is a past-President of the Dumfries and Galloway Division, and his interest in veterinary politics has led him to devote much time and energy to the work of the Councils of the Royal College of Veterinary Surgeons and of the N.V.M.A. His membership of the Council of the Royal College of Veterinary Surgeons dates from 1930, and he has an even longer association with the Council of the N.V.M.A.

In wishing Mr. Simpson a happy and successful year of office we are convinced that he will wear the Presidential chain with dignity during the memorable Coronation year. We feel a quiet confidence that the destinies of the Association have been reposed in the safe keeping of one who will not spare self in serving the interests of all its members, and with equal confidence we look forward to the support of all our members, to the end that Coronation year may be a noteworthy one in the history of the N.V.M.A.

R.C.V.S. Obituary

DEATH OF DR. WILLIAM TYSON KENDALL

Pioneer Educational Work in Australia

We deeply regret to record that, on August 11th, Dr. William Tyson Kendall, one of the foremost veterinary surgeons in Australia, and an Honorary Associate of the Royal College of Veterinary Surgeons, died at his home, 34, Park Street West, Brunswick, N.12, Victoria, Australia, after a brief illness. He was aged 85 years, and was regarded as the father of veterinary science in Victoria.

Dr. Kendall was born in 1851 at Sunny Bank, Torver, in the North of England. On April 2nd, 1873 he graduated at the Royal Veterinary College, London, arriving in Melbourne in 1880, when there were only four veterinary surgeons in the city. After he had made several unsuccessful attempts to obtain Government aid, he decided to establish a veterinary college single-handed. At considerable personal loss to Dr. Kendall this institution was established by him in 1888, and was carried on successfully until 1908, when it was handed over to the University, and the present institution was formed at Parkville. In 1891 he received the highest honour that his profession could give—the election to an honorary associateship of the Royal College of Veterinary Surgeons, and in 1909 he received his doctorate at the University of Melbourne. In 1930 he was honoured by the establishment of an oration at Canberra.

In 1875 he married Miss Elizabeth Park. She died in 1903, leaving five sons and one daughter. In 1905 he married Mrs. Elizabeth Todd, and in 1930 he celebrated his second silver wedding. Dr. Kendall is survived by his wife, five sons, and one daughter. Of his sons, the eldest, Colonel E. A. Kendall, is Chairman of the Australian Milk Board, Mr. W. A. Kendall practises as a veterinary surgeon at Prahran, Mr. John Kendall is engaged in the profession at Seymour, Mr. Hector Kendall retains his father's old practice in Fitzroy, and Mr. E. P. Kendall is employed as an engineer by the State Rivers and Water Supply Commission. There is one daughter, Miss E. J. Kendall.

CLOSING MEETING

(Adjourned Annual General Meeting)

Captain Simpson's Induction as President

PRESENTATIONS AND VOTES OF THANKS

The Conference Room at the Public Library, Scarborough, was well filled with delegates and their ladies at the Closing Meeting of Congress (adjourned Annual General Meeting), which was held on the afternoon of Friday, September 18th.

At the commencement of the proceedings the retiring PRESIDENT (Captain J. R. Barker), who was in the chair, said: We are now proceeding with the business of the adjourned Annual General Meeting. Before we come to the agenda as printed there are one or two little things that I am sure you would wish should be done on behalf of the Association. As it is such beautiful weather outside I propose to be very brief so that we can regain the open air.

My first and foremost duty is to do honour to the Local Secretary, Mr. McCleery. When it was mooted that we should come to Yorkshire for this Congress it was necessary that we should get hold of a Local Secretary. It was also necessary that we should get hold of an efficient Local Secretary. I can assure you from the contact I have had with Mr. McCleery that we have secured a very, very efficient Local Secretary. (Applause.) In a very large measure he is responsible for the success of this Conference, more particularly, I think, in making arrangements for the social side, which has been such a prominent feature. I want to associate with the name of Mr. McCleery that of his wife, who, I am sure, has had quite a lot of responsibility for keeping Mr. McCleery efficient and happy during the whole of the time leading up to the Congress, and here during this present week. (Mr. McCleery entered the room at this point.) While I have been saying such charming things about your wife in your absence I think it is proper that you should know that we have just been singing your praises as an efficient Local Secretary for this particular Conference. If you will come forward, without more ado I would like to present you, on behalf of the National Veterinary Medical Association, this piece of furniture, which, I hope. . . . (the remainder of the remark was lost in applause).

[The President now presented Mr. McCleery with a handsome antique sideboard and table.]

Mr. E. F. MCCLEERY (Local Secretary), returning thanks for the gifts, said: Perhaps I should say in the first place, following on some advice we received the other night at the Banquet—Mr. Steele Bodger's advice—I should not have been in this position had it not been for my wife. When I took on this job of Local Secretary I was rather harassed into it in a weak moment, and I anticipated a certain amount of work. The work was, I admit, heavier than I anticipated, but my wife saw me through. Also I was a novice and knew nothing about it, and I was depending first of all on your President and also on the general Provisional Committee, the Executive Committee, and, if I may say so, last but not least your General Secretary—(applause)—together with his staff. After I got going I was bothered by your Editorial Representative, Mr. Brown. He wanted something doing. I did my best, but he saw to it that that was improved, and very considerably improved. Then when it came to the local arrangements I owe a very deep debt of gratitude to the Publicity Manager of Scarborough and to Mr. Smettem, the Librarian. It would have been impossible to run this Congress if it had not been for the help both these officials of Scarborough Corporation have given. (Applause.)

Coming towards the end the amount of work involved became rather too much for my capabilities, and it was decided that I should be relieved of the side which deals with operations and demonstrations, and I got the consent of the Provisional Committee to ask Mr. Lang and Mr. Watson to deal with this. I had not to ask twice; they took all that responsibility entirely off my hands, and all I can say to both of them is "Thank you." I have said that the task has been a big one, bigger than I had anticipated, but I have enjoyed it and I think I may say I am pleased that I took it on. It has been an experience, an experience I shall treasure for probably the rest of my life.

As regards this presentation, I do not quite know what to say about that. Your kindness in this respect entirely surpasses my capacity to acknowledge it adequately. I feel I had far better leave it alone and simply say "Thank you very much." I know that I shall treasure it as long as I live, as also will my wife. (Applause.)

The PRESIDENT: The next pleasing duty is to present Miss Powley with some recognition of the services she has extended to the National Veterinary Medical Association at this Congress. (Applause.) I would like just to say, along with that, that her father, as Chairman of the Provisional Committee, is entitled to your most generous thanks. He has the happy disposition and happy knack of not worrying and yet seeing that things are done. We are lucky indeed in having two members of the family working for us here. As we cannot recognise anything Mr. Powley has done for us, we would like to do this for Miss Powley. (Applause.)

[The President then handed to Miss Powley a gold wristlet watch.]

Mr. J. O. Powley: I would just like to thank you for your graciousness to-day in giving my daughter this small token of regard for the work she has done and to say how pleased I have been to enter into the spirit of this Congress and do my best to make a success of it. The work, of course, falls on the Local Secretary, but there are extraneous duties which, in this case, the venue being away from the home of the Local Secretary, required a good many visits, and I was fortunate to be able to carry out these visits. Mr. McCleery has done an enormous amount of work; how much, no one knows except himself.

I may take it, I think, that the Congress has been a great success, and Yorkshire, I feel, has proved itself. I am not a Yorkshireman—I am a Lancashire man—but it has been my pleasure to help along the good work of Yorkshire. (Applause.)

Induction of President

The President: We will now revert to the agenda as published in the Congress Handbook. One of the pleasures of taking office as President is to hand it over to one's successor. Your Council, rightly, I think, chose at its last meeting, Captain Simpson, of Cumberland, to be your President for the next year. In Captain Simpson we have a man who has had experience in all branches of the profession. He was one of those graduates who caught 1914 and promptly took up war service; then coming back from war service he went into Local Government and into the Ministry of Agriculture's service, and in 1926, I believe, was appointed Chief Veterinary Officer for Cumberland. Not only has he taken part in that particular sphere of work, but he has found time to give to the Royal College of Veterinary Surgeons and the National Association those things which the Royal College and the "National" cherish and benefit by, so that I think I can confidently hand over to him the duties of President of the National Veterinary Medical Association for 1937. Without more ado I propose to invest him with the robe and chain of office as your President for next year.

(The retiring President installed Captain Robert Simpson, F.R.C.V.S., D.V.S.M., Carlisle, Chief Veterinary Officer, County of Cumberland, the President-Elect, into office by placing upon him the robe and chain of President.)

Captain Simpson, it is my very great pleasure, on behalf of the "National," to invest you with the robe and chain of office, and I sincerely hope you will have as successful a year of office as was your pleasure should fall on me. (Applause.)

[*Captain R. Simpson assumed office as President.*]

The President (Captain R. Simpson): It is always a little difficult on an occasion such as this to express in adequate fashion my sincere appreciation of the high honour you have just conferred on me, but I would just like to say to you that I do appreciate very much the very kind and generous expressions you have used in installing me in my new office, and also the very kindly welcome you have given to me.

Since my election was decided upon on Wednesday I have had numerous expressions of goodwill from many members of the Association belonging to every section of our profession, and those expressions of goodwill and the welcome you have given me to-day will be an encouragement and inspiration to me in my year of office. Our Association has been passing through a somewhat difficult phase, a phase which is not peculiar to an Association such as ours, but I am one of those who believe very sincerely that it is vital to the interests of our profession that this Association of ours should be solid, that it should command respect both inside and outside the profession, and that it should be based on unity. It was with these ideals that I accepted nomination; it is with these ideals that I embark on my year of office, and I hope if these objects are kept in my mind I shall have the goodwill and sympathetic and indeed the active support of every member of the Association.

I need say no more except that I shall do my very utmost to maintain the prestige of the office to which you have just elected me, and I hope when I come to the end of my year of office and give an account of my stewardship that you will not regret the choice which you have made to-day. (Applause.)

The Retiring President Thanked

The President: My first duty on assuming office is a very pleasant one. I have to ask you to accord our retiring President a very hearty and very cordial vote of thanks. Last year at Belfast, when we elected Captain Barker as President of the Association, those of us who knew him well were quite confident we had selected the right man, and all our expectations have been more than fully realised by the way in which he has discharged the duties during the past year. Possessing as he does a wide fund of common sense, endowed with tact and that capacity to see and understand other people's points of view, he has certainly discharged his duties with every credit to himself and credit to the Association. I am particularly certain that among the long list of distinguished members of our profession who have occupied the Presidential chair the name of John Barker, of Hereford, will always have an honoured place. (Applause.)

I must not omit, of course, to mention the fact that our Association owes another deep debt of gratitude to Mrs. Barker. We have seen something of her charming personality this week and the great help she has been to her husband, and I am quite certain every word is true with regard to that generous tribute Captain Barker himself paid to his wife. I have really nothing more to add except to extend to you, Captain Barker, our very sincere thanks indeed for all you have done for our Association. (Applause.)

Capt. Barker: When I took office last year I was only a novitiate in the affairs of the "National," but I had some experience that I thought could be placed at the disposal of the "National," and it was my ambition that that experience should so change and so alter the course of the N.V.M.A. that we should reach one harmonious whole. Another thing—I had looked upon it as a trust placed in me. If I have during my year of office not let down that trust and I hand on the affairs of the Association in a better condition than I found them, or as good, I am perfectly happy, and I am sure my wife agrees with me that we both are perfectly happy. (Applause.)

[J. F. Seaman, Scarborough.

Captain Barker Congratulates his Successor as President (Captain Simpson) at the Close of the Conference

VOTES OF THANKS

The President: The second item on the agenda is "Matters that have arisen during Congress." As there are no matters which have arisen due to be considered, we can pass on to the next item, No. 3, on the agenda. There are certain resolutions which have to be proposed. I have already perhaps jumped a little ahead in proposing that resolution in regard to our retiring President. I will now call on Major DeVine to propose a vote of thanks to the Corporation.

Major DeVine, complying, said: Mine is a very simple and pleasant duty to-day—to propose a vote of thanks to the Corporation of Scarborough for the facilities which they have given us for the Congress and for our entertainment and meetings. You all heard Dr. Wooldridge the other night discourse on the history of Scarborough, but from our own personal experience during this week I am sure none of us will have anything but a good word for the Corporation. Whoever was responsible for choosing this centre ought to be congratulated. The Corporation have laid themselves out to help us in every way, and some of us who have been attending meetings all the week have not been able to take advantage of all the facilities; but the ladies and visitors have, and the Corporation are to be thanked for the ticket which gives free entrance to all the places mentioned on the back. I formally, Mr. President, propose that the Corporation of Scarborough be thanked for the great help and the kindness extended to the members of the Association during this week. (Applause.)

The President: I call upon Professor Wooldridge to move the next one.

Professor Wooldridge: We could not have had a successful Conference here had it not been for those to whom I am proposing this vote of thanks. It would be invidious to pick out individuals, and when I tell you that the vote of thanks I am about to propose is to the

readers of the papers, the openers of discussions, the operators and demonstrators for the work that they have done during the Conference, which has made it the great success it has been, I am sure you will all agree with me. Much has been said about the work of other members of the Association who have contributed to its success, but it does not matter how much work they have put into it, if it had not been for the work of those who responded to their invitation—and that has been no small task, I can assure you—this Congress would never have been held. I go so far as to say that we have never had a Congress at which the papers have met with a more hearty reception or more able and thorough discussion. There has only been one difficulty, the shortness of time to do justice to many of the questions brought before us. In addition to these gentlemen, I wish to include members of the Provisional Committee. Reference has already been made to the Chairman of that committee, Mr. Powley, and the Secretary, Mr. McCleery. But they had a splendid team to work with and that Provisional Committee has given them every possible assistance throughout. There is one other thing I would like to include in this vote of thanks, and that is an expression of our indebtedness to the Yorkshire Division of the "National" for their hospitality as extended to us on Sunday night to give us such a hearty send-off to this meeting. I ask you, therefore, to accord your heartiest vote of thanks, a composite one—I do not want you to exhaust yourselves with individual votes of thanks, and that is the reason for coupling them together. (Applause.)

The President: I call upon Professor Craig to move the next resolution.

Professor Craig: The proposal which it is my privilege to make to you needs no words of mine to recommend it to you. We have had with us our colleague from Stockholm, Professor Lagerlöf, who has made a contribution to this conference which may be regarded as the most notable event during the past few days, and that statement I have made without any reflection upon the excellent papers presented here. Those of us who were privileged to be present at his remarkably fine address and wonderful demonstration are greatly impressed with the work he has done and the branch of veterinary science which he has taken up. I hope he will understand how much we appreciate his presence here and that he will go back knowing that he has made many friends in this Congress this week. I propose that the best thanks of this Congress be accorded to Professor Lagerlöf for his address and demonstration. (Loud applause.)

Professor Lagerlöf: I wish to express my sincerest thanks for the very kind remarks Professor Craig has been pleased to make about me. I myself have followed the programme of this Congress with the very greatest interest, and I wish to congratulate the National Veterinary Medical Association of Great Britain and Ireland on the excellent results which I have been able to see are achieved by this Congress. I also wish to say that we Swedish veterinary surgeons appreciated very much indeed the visit of your illustrious President to the seventy-fifth birthday celebration of our Veterinary Medical Association last year. Finally, I wish to thank you for all your kindness to me and the fine reception you have given me during my stay here. I will always remember this week. Thank you very much indeed. (Applause.)

Captain J. R. Rider: The duty which has been imposed upon me is to ask you to accord a very hearty vote of thanks to the members of the Press who have attended our deliberations and, shall I say, very successfully put in the meat of the discussions for the consumption of the outside world. Professor Wooldridge has said that without the writers and openers of discussions no Congress could take place, but one cannot help but feel that without the aid of the Press the deliberations of the Congress would lose a vast amount of importance to the rest of the community which is achieved through the generous help of the Press. For that reason, therefore, we feel indebted to them for the help they have given. I can, I think, let you into a little secret as to the preliminary arrangements which were made by meeting the Press in advance of Congress in order that we might explain to the Press what we stand for and that they might appreciate our point of view. That, I believe, is an innovation so far as Congress is concerned, and I think it is one that cannot but be good for the future. You will agree with me that the Press have been extraordinarily kind to us and given us good reports of our meetings, and we have even become the butt of the cartoonist. That, one may take it, is a compliment indeed. I would ask you to accord the heartiest vote of thanks to the Press. (Applause.)

Declaration of the Close of Congress

The President: It only remains now for me to make a formal declaration of the close of this Congress. I think it has been acknowledged that this Congress has been a really marvellous success. I hope you will all turn up at Bournemouth next year and support me as loyally and as effectively as you have done our friend, Mr. Barker. I have nothing else to say except to declare the Congress closed.

POST-CONGRESS MEETING OF COUNCIL

The first meeting of the Council for the year 1936-37 was held in the Public Library, Scarborough, on the afternoon of Friday, September 18th, immediately following the Closing Meeting of Congress.

The newly-elected President, Captain R. Simpson, occupied the Chair, and there were also present: Captain J. R. Barker, Messrs. H. W. Steele Bodger and H. E. Bywater, Mr. Donald Campbell (President-Elect), Professor J. F. Craig, Major Brennan DeVine, Captain O. V. Gunning, Captain H. Tudor Hughes, Major H. Kirk, Mr. H. G. Lamont, Captain W. W. Lang, Major J. G. McGregor, Captain W. R. McKinna, Mr. J. W. McIntosh, Professor W. M. Mitchell, Captain S. J. Motton, Mr. W. Nairn, Major D. S. Rabagliati, the Hon. Secretary (Captain J. R. Rider), Mr. H. M. Salusbury, Lieut.-Colonel P. J. Simpson, Captain W. K. Townson, Messrs. A. H. Watson, T. Wilkinson, W. Woods, Professor G. H. Wooldridge, Dr. W. R. Wooldridge, and the Hon. Treasurer (Captain W. G. Wragg), together with Mr. C. O. Langley (Solicitor) and Mr. F. Knight (Secretary).

The purpose of the meeting was to make arrangements for the selection of Standing Committees for the ensuing year.

It was agreed that the Selection Committee be composed of the same members as constituted the Selection Committee last year, with the exception that Colonel Dixon's place on the Committee be taken by Mr. H. E. Bywater.

The Council agreed to recommend to the Selection Committee that the name of the President-Elect (Mr. Donald Campbell) should be borne in mind when the nomination of representatives to serve on the Standing Committees was being considered.

Major J. G. McGregor gave notice that at the next meeting he would move that Professor Nils Lagerlöf, of Stockholm, be elected an Honorary Memember of the Association.

At the War Memorial, Oliver's Mount

Papers Presented to Congress

In accordance with custom, we reproduce in this issue the first of the series of papers presented to Congress, together with the discussion upon it which took place at Scarborough. In addition, publication is made of the important address given by Professor Nils Lagerlöf, of Stockholm, in introduction of his demonstration on "Sterility in Bulls."

The paper to which reference is made above is the contribution to the Veterinary Medicine and Surgery Section made by Mr. H. R. Hewetson, M.R.C.V.S., of Southport, on "Hysteria in Dogs."

In succeeding numbers of the *Veterinary Record* will be reproduced, in the order in which they were considered by Congress, the following papers and reports of discussions thereupon: (2) that to the Experimental Pathology Section by Professor J. Russell Greig, Ph.D., M.R.C.V.S., of Edinburgh, on "Abortion in Ewes; (3) "A Consideration of the Accredited Producers' Scheme of the Milk Marketing Board" (Public Health Section), by Major D. S. Rabagliati, *O.B.E.*, B.Sc., F.R.C.V.S., D.C.C.M., Chief Veterinary Officer, West Riding County Council; (4) "The Detection of the Tuberculous Cow (Public Health Section), by Captain H. L. Torrance, M.R.C.V.S., D.V.S.M., Chief Veterinary Officer, Nottingham; (5) "Some Observations on the Use of Vaccines in the Protection of Cattle against Tuberculosis" (Experimental Pathology Section), by Mr. R. E. Glover, B.Sc., F.R.C.V.S., Institute of Animal Pathology, Cambridge; and (6) "A General Consideration of the Disease Conditions mentioned in the Horse Breeding Acts" (Veterinary Medicine and Surgery Section), by Professor W. M. Mitchell, *M.C.*, M.B., Ch.B., B.Sc., M.R.C.V.S., of Edinburgh.

. . . . .

No. 1.—HYSTERIA IN DOGS*

H. R. HEWETSON, M.R.C.V.S.
Southport

My difficulties in writing this paper commence with giving a satisfactory definition of the condition, but I propose to do this simply and widely, so that no associated condition need be ruled out of discussion. The title may be the subject of criticism, but though I agree that in many ways it is unsuitable, it has nevertheless long since passed into common usage, and when hysteria is mentioned the condition is

*Presented to the Veterinary Medicine and Surgery Section, N.V.M.A. Congress, Scarborough, September 14th, 1936.

pictured at once. It would moreover be difficult, if not impossible, to substitute another name without arousing more controversy than has died down over the present one. Besides, "what's in a name?" At least 14 different names have already been used in literature in English, but hysteria is the one which has survived.

A large amount has been written and said from time to time which the authors will now appreciate is false, and it is probable that much of this paper and the discussion will seem foolish in the future, but if we only succeed in breaking up some theories and prejudices, it is possible that we may remove enough of the débris to have a clean foundation to work on. It must be recognised that the opinions I put forward are those of a practitioner and so based on clinical experience only, and that, apart from the research on the biochemical blood picture by Mr. H. H. Green, D.Sc., of the Veterinary Laboratory, New Haw, Weybridge, no original bacteriological or pathological research has been done for the preparation of this paper.

Definition.

A condition of dogs characterised by paroxysmal attacks of deranged consciousness or sensibility, manifested largely in barking, crying and running.

History.

There seems almost universal agreement that the disease as we know it to-day was first noted in the Southern States of the U.S.A. about 1916, and spread north to the Northern States and Canada about 1920. It first appeared in England about 1924; and as many of the early cases occurred in South-West Lancashire and Cheshire, it was suggested that it was brought as an infection from America through the port of Liverpool. There is now no part of the British Isles from which cases are not reported, and it appears to be fairly well known on the Continent.

Occurrence.

The syndrome occurs at all seasons of the year, at all ages and in both sexes, but in my experience there is a slight increase in young dogs in winter. I have noted that the majority of cases occur in pure-bred animals, though the mongrel is not by any means exempt. Bull dogs, Pugs, Pekingese and those breeds with especially broad skulls seem to be the least affected. Convulsions or fits as well as hysteria have certainly increased in recent years in the young of those breeds with fine, narrow heads, and in a large number of breeds the aim of the breeder appears to be to increase the length and decrease the width of the skull. Such alteration of the natural shape of the brain-containing portion seems likely to effect the growth and development of the brain itself, and presumably may lead to cerebral weakness and instability. The breeding of dogs to-day is directed to the production of artificial types which we may call "streamline," rather than to the sturdy health and intelligence of the breeds.

Etiology.

The etiology is as much open to question and discussion to-day as it was when hysteria was first recognised. There is not, in fact, any agreement as to the real nature of the condition. Among the causes suggested are (1) Infection; (2) Diet; (3) Digestion; (4) Deficiences; (5) Alimentary toxaemia; (6) Intestinal parasites; (7) Allergy; (8) Circulatory disturbances; (9) Faulty hormone balance; (10) Environment; (11) Sundry irritations and excitements; (12) Discipline; (13) Excessive heat loss.

Since the cause and nature of the syndrome is the matter of prime importance it will probably pay us to consider these reputed causes fairly fully.

1. *Infection.*

In a great many outbreaks there seem to be almost conclusive grounds for accepting a theory of infection. The sudden endemics which occur in some districts are difficult to explain by other means, and some workers have claimed that they can isolate and cultivate a specific organism which will later reproduce the disease by inoculation into non-affected dogs. Apart from the fact that no constant organism has been isolated and that some believe it to be a bacillus and others a virus, there are numerous cases which have never been in contact with other dogs, and an even greater number of cases where other dogs have not contracted it after prolonged contact with affected dogs. In the whole of my experience of the condition I have never hesitated to accept in my kennels a dog suffering from hysteria, provided that there did not seem any possibility of distemper associated with it, nor have I found that a number of such patients in the kennels have had any ill effects on the other inmates.

I refer especially to care in regard to distemper, because it seems to me extremely probable that where a specific organism has been claimed to have been discovered, the workers have really been dealing with distemper. It may, however, yet be shown that some neuropathic virus is concerned, but even so I still think that some other exciting cause is necessary to induce the attacks.

2. *Diet.*

It cannot be doubted that a great change in the feeding of dogs has taken place during the last few decades. The march of civilisation has tended to the increasing refinement of foods,

and the more complete utilisation for various purposes of what used to be waste products, especially of meat, such as entrails, glands, blood, etc. In these circumstances the dog has undergone a gradual evolution from carnivorous to omnivorous, and the natural foods he still gets are refined and devitalised by comparison. Twenty to thirty years ago the habits of the peop'e tended to much larger meals, and especially of meat, than is the case to-day, and in consequence in the more well-to-do households, there was always ample waste of a type especially suitable to the dog, which was thrown to him before it was cooked. Few then thought of cooking for a dog, and biscuits were probably an expensive luxury by comparison. The dogs of the poorer homes would have easy access to slaughter houses and butchers' shops, which being more or less uncontrolled would be more numerous, and have plenty of plucks, lights, blood, etc., lying about. These changes, accompanied by a much more restricted type of life, frequently with delayed defaecation in house dogs, must have had a profound effect on the digestive and nervous system, irrespective of whether all the vital needs are supplied or not. Biscuits, and more especially biscuits containing meat, have come in for really more than their fair share of blame, since as many or more instances of dogs remaining healthy, fed on biscuits of all types, can be shown, as of outbreaks of hysteria on introducing them. Since animal protein and fat is digested in the stomach in an acid medium and carbohydrates and sugars tend to lessen acid gastric secretion, the feeding of the two mixed may be the cause of indigestion in those cases where a return to biscuit has apparently resulted in fresh hysteria. Further, the practice of feeding biscuits and other starches wet or soaked, increases the difficulty of their digestion. Whatever opinions may be held as to diet as a cause, there will be general agreement that a diet so balanced as to promote and maintain good health and digestion will be inimical to the development of hysteria. The essentials of a diet are proteins, fats and oils, carbohydrates, minerals, vitamins, bones and water. The acid nature of the gastric juice is unsuitable for the digestion of vegetable proteins, and therefore proteins should be of animal origin. It is worth noting that the early recorded cases in America coincide with a war period when that country was practically conscripting all available meat for use of the armies in the field, and vegetable substitutes would no doubt be introduced for dogs.

3. *Digestion.*

Digestion and diet really go together, because it is plainly useless to present all the needed elements in such a way that they will not be properly digested or assimilated. Most writers who incriminate digestion as a cause refer to unsuitable foods as the cause of the indigestion. Cooked, prepared and predigested foods weaken the natural secretions, and there arises an inability on the part of the animal economy to deal with fermenting masses, resulting in reflex neuroses. Meat should be fed raw and include a certain proportion of fat and offals. It should not be too finely cut or minced, otherwise it passes through the stomach before digestion is complete. If mixed with starches or sugars, its digestion will be interfered with, while if cooked the vitamins are mostly destroyed, and there is greater elimination of phosphorus and chlorine, and the amount of urine passed will be enormously increased. Though many believe that most of the uses of fat can be filled by the carbohydrates, fat is much easier for the dog to digest and maintains the glycerine-phosphoric acid content in the lecithin combination of the C.N.S., as well as assisting in the calcium and phosphorus metabolism. Its influence on the nervous system is sedative. Carbohydrates are essential for energy, and probably the best source of these is biscuit or rusk, since cooking is very thorough. The quantity should about equal that of meat. It should be fed dry and alone, or in combination with a little fat, butter or margarine. Minerals may be obtained from both these foods, but are found most plentifully in the raw meat, organs and bones. As dogs have no ability to deal with cellulose, vegetables and fruits are unsatisfactory as suppliers of minerals and roughage, and lead to indigestion; it is better, therefore, to substitute bones for these. Vitamins, again, are principally supplied by raw meat, liver, lungs and eggs. I have seen very little hysteria in dogs fed on these lines.

4. *Deficiencies.*

Those which have been blamed include defiency of minerals (especially calcium), animal protein, fat and vitamins. It is not a complete answer to the adherents of this theory to say that many dogs whose life and diet lack nearly all those substances do not have hysteria. Beri-beri has been definitely proved in human beings to be a disease of vitamin B_2 deficiency, yet not 50 per cent of those living on a diet of polished rice, devoid of vitamin B, develop it. The ability of the average individual to resist unfavourable conditions is relatively high, and though in many cases hysteria can be shown to have been eliminated by supplying these deficiencies, there still remain a number which are not so improved and some which develop it even on a diet which may be considered ideal.

5. *Alimentary Toxaemia.*

Most cases reported where alimentary intoxication is blamed seem to me to be chiefly cases

of distemper. In human medicine there is, of course, a form of neurasthenia which is associated with mucous colitis, and there is no good reason why nervous phenomena in the dog should not have similar origin. Many severe cases of hysteria, however, never exhibit any bowel symptoms, and of course an even larger number of alimentary conditions never result in hysteria. The diarrhoea which sometimes occurs during hysterical attacks is not sufficiently constant to have any significance. I am bound to admit that I have had one isolated experience in a kennel of 15 to 20 dogs, where the condition was almost always present in a varying degree of severity for about two years. It persisted despite all methods to check it until intestinal disinfection was carried out, when almost immediately all attacks ceased for a considerable period. When, after about twelve months, mild attacks reappeared, a further course of intestinal disinfection checked the disorder again, and no further trouble has been experienced.

6. *Intestinal parasites.*

As an exciting cause in young dogs or puppies, there is little doubt that these play an important part, as do many other irritations, but they do not act except as irritants or intoxicants. They cannot be ignored because quite frequently a heavy ascarid infestation will pass unnoticed if search is not made in the faeces for eggs, and this may be the irritation or intoxication which is exciting attacks that would otherwise disappear.

7. *Allergy.*

Allergic responses to food constituents, moulds, etc., may be exciting irritants to some animals hypersensitive to them. The reaction to a specific pollen imported from China has been cited as the primary cause, but there is little evidence to support this.

8. *Circulatory Disturbances.*

It is possible that cerebral hyperaemia does occur at the time of attack, but *post-mortem* examinations, however carefully made, cannot show us what is existing during life.

J. E. R. MacDonagh, in "The Nature of Disease," states that the protein in the blood plasma is in the form of colloid particles rather than in true solution, and that conditions of shock, infection or auto-intoxication cause these particles to break down or clump together, when they become precipitated in the capillaries of the brain and partially block them. This as a theory of the etiology of hysteria, would fit in nicely with a number of the suggested causes acting as the dehydrators, but if it were so, it should be possible to demonstrate the presence of the particles and choked vessels on *post-mortem*, which has not, to my knowledge, been done. Further, whether the impeding process were a constriction or a choking, a subacute irritability would be a more likely effect than wild paroxysms leaving the subject normal in a short space of time. If the attacks only came on after violent exercise or excitement the disorder might be explained as a temporary cerebral hyperaemia following increased heart action, but many attacks do occur during sleep.

9. *Faulty Hormone balance.*

Knowledge relating to abnormalities resulting from disturbances of endocrine secretions is far from exact, but I cannot see that there can be such a widespread abnormality of these without there being presented pathological or biochemical data, which are not forthcoming.

10. *Environment.*

In some cases there is undoubtedly an immediate exciting effect from environment. It may be that some fright, shock or emotion has been experienced of which the owner has no knowledge, but which has so impressed itself on the dog's mind as to send him into a frenzy on recollection being aroused. Many instances have suggested this factor to me, but I recall two striking examples. The subject of one was a Labrador dog, four years old, which had a portion of the garden at the side of the house set apart for his kennel and exercising run and which had been having attacks for about three weeks when I was consulted. I saw him in the pen and observed that even when quiet he had always an expectant watchful expression. Treatment for over a fortnight had no effect, and I then had him in my kennels. In two days he was normal and had no further attacks in seven weeks' stay. An hour after he returned home he was put in his pen and immediately had a severe attack. These went on frequently for a week, when with much reluctance the owner agreed to move his kennel and run to another part of the garden. This was over five years ago, and the dog has had no recurrence. The second example concerned a Dalmatian bitch, two-and-a-half years old, which was having frequent attacks, and was kennelled in an outside water closet. After a short treatment at home she was admitted to hospital and had attacks of decreasing severity for about ten days when they ceased. She remained in my kennels for seven months and had no relapse, but on the first day she went home she had an attack immediately she was being put in her kennel. If kept in the house she was all right, but whenever she was shown that particular kennel an attack commenced. The fright or shock in this case seems fairly simple to understand. The effect of light and dark has been debated, and though light is not rated as a cause, the general opinion seems to be that darkness is a sedative, and that confinement in a dark room will prevent

attacks in susceptible dogs. I am convinced of the opposite, and that there is no more unkind or irrational method of attempting to check hysteria than to put dogs in a completely darkened kennel, cellar or even room. From the earliest ages darkness has been the time of fear, the time to simple minds when the spirits of evil and unseen devils walk abroad. Reduction of noise, light and action, yes, but total darkness, *no*!

11. *Sundry Irritations and Excitements.*

These cover a wide variety, and no doubt everyone has seen cases which they believe to have been precipitated by one or another. They include ear mites, canker, worms, fleas, ticks, pruritus, indigestion, anal glands, bad teeth, stings, burns, chemical irritants, heat, the anaphylaxis to the early intoxications of distemper and other infections, thunder, fireworks and other loud noises, excitements, imitation of others, and hysterical owners. Any of these may act as a precipitant to an attack, but I do not think many will seriously accept any as a true cause.

12. *Discipline.*

A large proportion of cases occur in sporting dogs where training and discipline probably create some strong repressions and complexes in the mind of an intelligent dog. Conversely, a large number of house pets are so spoilt and free that they seem to lose all idea of self control, as evidenced by hysterical or "spoilt child" demonstrations on occasions. These latter appear capable of having hysterical attacks at will, which can frequently be stopped by either firmness or petting, *i.e.*, by giving them the attention they crave. Discipline therefore, may act in opposite ways, either by creation of mental complexes which are released under conditions of stress or excitement or by the atrophy of the powers of self control to the stage where nervous energy runs riot.

13. *Excessive Heat Loss.*

I mention this factor, not because it can really have much bearing on the disease as we know it in temperate climates, but because I am so impressed with the evidence as to its bearing in Arctic regions on analogous conditions. Heat loss involves a drain on the fat reserves which in turn is a drain on the nervous system and produces in human beings and dogs in Arctic regions, "Piblokto" and "Esquimo Dog Disease" respectively, conditions the symptomatology of which is very similar to what we call canine hysteria. Deficiencies in fat supply might possibly have the same effect.

Taking into consideration all these ideas on the subject of etiology, it is apparent that there is one factor, and one only, common to them all, and that is the mind of the dog itself. It would seem reasonable to approach the problem from the condition of the mind. Hysteria in the human is defined as "A condition in which ideas control the body and produce morbid alterations in its functions" and there is little to quarrel with in that definition as applied to dogs. Various writers have indeed called it a neurosis, which is defined as a nervous affection without lesion, of a psychosis, which is defined as a disease of the mind. Why should the mind of the dog to-day be subject to a condition which was unknown until the last 20 years? Students of psychology will agree that the mind can be greatly moved by outside influences and suggestions, and the changes in the dog's life and surroundings in that period are perhaps the greatest in history. The altered nature of the feeding, the more restricted habits, the environments in which noise and bustle have increased beyond belief, the more rigid control of breeding and increase in inbreeding with the gradual elimination of the mongrel, are likely to develop a much more sensitive and responsive nervous system at the expense of physical stamina and strength. The same general tendencies can easily be recognised in human beings in whom the number and severity of nervous conditions have increased alarmingly. The improvement in veterinary knowledge and skill, even, may play its part in the production of this and other conditions by enabling the arrival at maturity of numbers of puppies, otherwise too weak to survive, and whose sole excuse for continued existence is conformity with an arbitrary standard of build and shape. The dog of to-day, therefore, is a much more neurotic type than was his ancestor, and the balance of its mind is much more easily upset. This mental stability varies, of course, in each individual and stimuli which provoke reaction in one dog may leave another unaffected. In such a state outward or inward irritations such as have been mentioned will excite a response altogether out of proportion and out of control, and the resultant discharges of nervous energy produce hysteria or convulsions or both. It may be that there is an instability of the grey matter or cerebral cortex, but in trying to differentiate between the brain and the mind, between the physical and the psychical, we get on to difficult theorisation as to where the one finishes and the other begins. The individual tendency to hysteria, therefore, we have no ability to control, but the greater the physical health of the individual the greater should be its power to withstand exciting influences. It is here that diet, healthful surroundings, exercise, digestion, elimination and hygiene play their part. Where a dog's stability on a poor diet or in unhealthy circumstances is only just too little to avoid attacks, the correction of these will probably produce a cure, but where his stability is of a much worse order they will fail to rectify matters, and

this is, I believe, why deficiencies, digestion and diet have been blamed by some and exonerated by others. The association and confusion of the condition with distemper has been due to attacks of hysteria arising from reflex irritation of the brain from the blood intoxication shortly before the dog showed the characteristic symptoms of distemper. In the individual, healthfully fed and kept, there still remain the outside stimuli to provoke attacks, such as environment, hysterical owners, fireworks, thunder, being lost, the excitement of meeting the owner after prolonged absence, and especially that excitement caused by an attack in another dog within sight or earshot. I believe this is the explanation, rather than imitation, of those mass attacks of a whole kennel or a pack. There are many dogs which do have severe attacks of hysteria, isolated by long periods of quiescence, but which only arise at a time of some unusual emotional influence.

Bacteriology.

Alleged causal organisms have been isolated, and have been described, with different characteristics. It seems probable that a'l organisms that have been recovered, have been from those cases which were complicated with distemper, and that they were secondary invaders associated with the latter disease.

Morbid Anatomy.

Here, as with the bacteriology, there is no common factor with which to associate the disease. My own *post-mortem* examinations have been confined to macroscopic appearances and I have not observed anything which I believed was indicative of the disease. From published reports of post-mortems there are many which seem to be simply cases of distemper in one form or another. Despite the great care and attention to detail both in description of symptoms and lesions, I believe many investigators have confused a causative disease with the condition itself. Several careful and painstaking investigators have admitted after a large number of post-mortems, including thorough histological and bacteriological examinations, that they could find nothing which was pathognomonic. The congested condition of the lungs in dogs which have died during an attack, suggests that such deaths are due to asphyxia.

Symptoms.

Although there are probably 20-30 prominent symptoms and no two cases appear exactly alike, yet I believe diagnosis is usually arrived at unhesitatingly and immediately. Affected animals commonly commence to cry out, barking and whining, and bolt headlong for freedom, the direction of their flight being governed only by the path of least resistance, though minor obstacles are taken or crashed through with little heed, except it be further to excite the victim. Apparent fear is a prominent feature in some, but in others it appears absent. There is little, if anything, in the way of premonitory symptoms, and the attacks are usually short, two to ten minutes, when more or less normality returns. Occasionally the attack will terminate in a convulsion or fit and involuntary relief of the bowels or bladder may take place. Out of doors, victims will scale almost impossible walls and obstacles, and when free frequently run until they fall from physical exhaustion. I have never met a single case of an hysterical dog becoming vicious and deliberately attacking anyone. True, incautious persons have occasionally been bitten by hysterical dogs, but in all these cases there has been a clumsy attempt to corner the victim and catch it, and in its frenzy of fear the dog has worried what was in its way. In not a few cases amaurosis or disordered vision occurs, not only during but for a period after the attacks, and may persist for some time. Usually the pupils are dilated and do not react to light until a little time after the attack is over. Between times the temperature and pulse are normal, but during and just after an attack the temperature may reach 105°F. and the pulse 150 or more, gradually coming down to normal in a few hours. The attack may come on in sleep and quietude, or under circumstances of noise, excitement or emotion. Symptoms which I do not consider have anything to do with hysteria are—emaciation, loss of vitality, anorexia, vomiting, diarrhoea, dysentery, persistent temperature, thirst, rigors, conjunctivitis, keratitis, harsh coat, discoloured membranes, foul breath, filmed teeth, or any form of skin rash. Any of these symptoms may be noted in a dog having hysteria, but they are the symptoms of an underlying condition, possibly distemper, which in turn is probably the exciting cause of the hysteria.

Blood Changes.

At the time I was asked to write this paper, Dr. Green very kindly undertook to submit samples of blood from dogs suffering from hysteria, to biochemical analysis, and we hoped that much would result from this investigation. The collection of the amount of blood required for biochemical analysis proved very difficult, and the 27 samples included in the table below represent the total collected by six veterinary surgeons.

Though the number of samples is small, they seem sufficient to indicate that any further number would not appreciably alter the conclusions to be drawn from these. Dr. Green, in a covering letter with the tabulated summary of results, says: "The blood changes in respect to calcium, magnesium and sugar are not sufficiently significant to call for special com-

Sample Number.	Mgs. per 100 c.c. Serum.		Mgs. Sugar per 100 c.c. Blood.
	Calcium.	Magnesium.	
1	10·4	2·5	—
2	10·9	1·5	128
3	9·4	2·0	106
4	9·8	2·0	—
5	8·3	1·8	109
6	11·2	2·4	—
7	11·1	1·8	106
8	10·6	2·6	111
9	11·1	2·4	148
10	9·9	2·3	97
11	10·5	1·7	84
12	10·3	2·1	110
13	10·5	2·5	109
14	9·9	2·0	121
15	8·6	2·4	82
16	10·2	2·2	100
17	10·1	2·4	124
18	—	—	145
19	—	—	104
20	8·7	2·3	80
21	—	—	93
22	9·1	2·4	110
23	9·0	2·1	102
24	10·1	2·6	140
25	11·2	2·4	113
26	9·9	2·2	91
27	8·0	2·2	101
Range	8·0–11·2	1·5–2·6	80–148

ment. The same applies to inorganic phosphorus which was estimated in a few cases though not included in the table.

"The range 8·0 to 11·2 mgs. per cent. for serum calcium and 1·5 to 2·6 mgs. per cent. for serum magnesium is wider than usual, but the slight hypocalcaemia shown by numbers 5, 15, 20 and 27 and the slight hypomagnesaemia shown by numbers 2, 5, 7 and 11 are not sufficiently characteristic to be related causally to the nervous symptoms. It is not unexpected to find such changes as secondary phenomena to nervous excitement in any animal. The same applies to the high glucose values in cases such as 2, 9, 17, 18 and 24 where unusual excitement would be sufficient to account for the degree of hyperglycaemia observed. You will be able to make up your mind whether the enclosed data are of any use to you for mention in your paper—even if only of negative interest."

I, and I believe all readers of this paper will also, feel much indebted to Dr. Green for his work on this subject. He does present data which have not before been available and which on first thoughts suggest that mineral deficiencies play little part in causation. It may, however, be borne in mind that calcium metabolism may be subject to influences in which bone is drained of its calcium to maintain the blood calcium level and that further researches are necessary before it is possible completely to rule out these deficiencies.

Prognosis.

In the great majority of cases this is favourable. Provided that hysteria is uncomplicated by specific infection such as distemper and is not accompanied by serious or organic disease of the brain—differential diagnosis of which should nearly always be possible—approximately 95 per cent. of recoveries may be expected. A point of considerable importance in prognosis is the length of time the condition has been in existence. Mental impulses tend to travel along the paths to which they have become accustomed—where, so to speak, they have worn easy grooves. It is important, therefore, that the condition should not have been in existence so long that there is established a path along which, at any excitement, nerve impulses rush along in the production of hysteria. Where by the presence of constitutional symptoms, especially persistent temperature of 102·5° to 103·5°, or by evidence of meningitis or brain disease, it is apparent that the hysteria is only induced by a primary disease, then prognosis must be guarded, if not grave. Mortality in uncomplicated cases is probably less than 1 per cent. and when it does occur is usually due to asphyxia. This percentage does not include, of course, those cases destroyed because of the persistence of the syndrome, or on account of the fear of recurrence by their owners.

Immunity.

None. If an affected animal has lived under poor conditions improvement in these may result in no further occurrence, because its mental stability is thereby increased. The likelihood or otherwise of any dog developing an attack depends solely on its mental stability, and the mind which has succumbed once is that which may do so again if conditions favour recurrence. A dog which has had hysteria may only be judged more likely to have it again than one which has not had it, by the knowledge that its mental balance has already exhibited instability.

Prophylaxis.

If breeders would allow animals to revert to their natural type and would cultivate the broad skull and robust physique; if every dog or bitch, before breeding, had to have a certificate of health and freedom from hereditary unsoundness, weakness or nervous disease, and if all dogs were reared, fed, housed and exercised according to rational principles, I believe hysteria would practically cease to exist. As it is, little trouble is experienced with dogs that have from puppyhood received ample raw and natural food, and kept free from internal and external infestation of parasites or other irritations. Even in the grown dog an improvement in its diet and surroundings will show benefit

but, of course, by that time the mental condition has become established, and cannot be influenced to the same extent as in the puppy.

Course and Recurrence.

There is no definite period of attacks or intermission. Untreated cases will mostly persist indefinitely, in phases of two to three weeks of active attacks, and then two to three months quiescence. The periods of rest may be due partly to the need of the organism to recover from the terrific waste of nervous energy in the acute phases. The periods are, however, subject to considerable variation according to the increase or decrease of precipitating causes.

Treatment.

Rational treatment, if my theory of causation be anywhere near correct, would seem to be simply the removal of all discoverable causes of irritation and the building up of health in happy surroundings. In the meantime symptoms should be treated. On meeting a case for the first time, check up its history, and the symptoms for signs of physical ill health. If the result is satisfactory and one is led to believe that hysteria only is concerned, examine for and treat all sundry irritations, such as worms, teeth, ears, skin parasites and anal glands. Go into the question of environment, diet and digestion, and adjust these on rational lines. In all ordinary cases the dog will be better if allowed to remain at home, where its peace of mind is likely to be at its maximum. Where large numbers of dogs are kennelled together, the numbers occupying the same kennel should be reduced to the minimum, and the severe cases causing disturbance removed as far as possible. Only in those cases where there are signs of ill influences of environment or of impatient actions of the owner, is it likely that better progress would be made in hospital, and even then the possibility of recurrence on return to the unfavourable conditions must be borne in mind. Urgent treatment consists of the administration of a powerful hypnotic to give the patient complete rest and relaxation for about 24 hours. The barbiturates are usually sufficient for this purpose, though occasionally it may be necessary to give morphine hypodermically. For the next two weeks all games and excitements must be cut out, even exercising, and the opportunities for elimination confined to the owner's garden or yard: to allow a dog so affected to go out into the street where traffic noises and excitement offer suitable stimuli for attack; or with others into fields where running and playing act similarly, is just asking for trouble. During this period bromide and chloral hydrate graduated downwards from heavy doses until their discontinuance, will keep the mind soothed and quiet, while the addition of an assimilable salt of calcium seems to help. At the end of this time a gradual return to normal life should be possible without ill effect. This, for all practical purposes, is the treatment I adopted in my first cases about twelve years ago, when there were no data nor any experience to go on, but I have found these methods to result in a very high percentage of success. In the intervening time I have tried and experimented with any number of treatments—oxygen hypodermically, saline infusions, injections of calcium, arsenic, etc., gastro-intestinal lavage, intestinal disinfection and so on. In some difficult cases benefit may be obtained from any one of these, but they are treatments to fall back on rather than to adopt as routine measures, and even then an odd case will stand out to show that nature has still one card up her sleeve.

Even now I am prepared to change any of my views when experience or research shows them wrong, and this may happen next week, next year, or never.

Much remains to be discovered and proved, but I am satisfied that the progress to date is not unworthy of our profession. I find great difficulty in composing a satisfactory list of references, which are frequently short, and largely cover the same ground. I hope those I give cover all the points on which I have drawn from the knowledge of others, and that any omissions will be forgiven.

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The foregoing paper was the first to be discussed by Congress, the members attending in large numbers for this purpose at 11 a.m. on Monday, September 14th, in the Public Library, Scarborough. The President of the Section concerned—that of Veterinary Medicine and Surgery—Lieut.-Colonel H. G. Bowes, F.R.C.V.S. (Leeds), occupied the chair and called upon the essayist to say a few words in introduction of his paper.

Mr. H. Raynor Hewetson complied by observing that just before he entered the room he was congratulated upon having a good opportunity for collecting all the ignorance on that subject. (Laughter.) He had not, however, rushed in "where angels feared to tread"—he had been pushed in, but in presenting the paper he did feel that it would be a long time before they reached finality in that matter—as on so many others—and that it was of great importance that the profession should pool such limited knowledge as they possessed concerning it, in order that some progress, at least, might be made.

The Chairman now invited Major Chambers to open the discussion.

Discussion

Major Frank Chambers, *O.B.E.*, F.R.C.V.S. (Wolverhampton): When I received a notice from the General Secretary of our Association stating that my time was limited to twenty minutes, I thought he was something of an optimist, because I felt that I could say all I knew about this disease in very much less time than that.

In 1929 I opened a discussion on this subject at Ayr, when Sir Frederick Hobday read a paper on it. A very interesting discussion it was, and whilst all recognised a new complaint nobody could produce any definite evidence as to the cause. I must confess that to-day we know very little more about the disease than we did in 1929. Practically no research of any kind has been done on this condition—no money has been forthcoming from the various governments that have been in power since hysteria first made its appearance in this country for research into a condition of animals which have really no economic value in the history of the country.

What we want really to get at is what causes hysteria in dogs: what is the actual cause—is it a virus, is it a toxin, or is it neither? The tracing of the history of the disease from the literature, etc., is very instructive and helpful. The disease first appeared in the Southern States of America in 1916—at least, it was then first recognised about then, for it may have existed there for a long time previously, because in America rabies is prevalent and one can quite understand such a disease as hysteria being confused with rabies in a country where the latter condition was rife. In fact, thousands of dogs suffering from hysteria were possibly destroyed as affected with rabies before it was realised that they had something quite different and specific to deal with. Hysteria remained localised in the south, however, until about 1922, when it began to spread north, being observed in Ohio and eventually all over the country and in Canada. Apparently it is only seen in Canada in the hot weather, the coastal regions of British Columbia not being included. After a short appearance in Ireland it manifested itself in England in 1924, first at Liverpool and several ports. After a time it began to spread rapidly in Lancashire, Cheshire and North Wales. Soon after this cases were reported from Scotland, London and the south of England. It was apparently taken to Scotland by the migration of shooting dogs during August. It then appeared in Holland in the region of the Meuse and the epidemic spread to the north and centre of the country. Cases were recorded in France in 1929 and, as in America, the disease was at first associated in the professional and popular mind with rabies, until it was noticed that a large number of brains examined were negative for Negri bodies. On enquiry being made by Rossi, positive replies were received from 612 veterinary surgeons residing in 68 departments (counties). In the canton of Saone-et-Loire, Rossi reported 160 cases actually observed, but there must have been many other cases not seen or recorded. The disease then spread north-east and appeared in Germany. Since then apparently it has invaded Russia, but to what extent, and whether it has gone any further, I do not know. My object in tracing the spread of specific hysteria is to show that the disease commenced in the nature of an epidemic, but unlike the influenza outbreak in man of 1918, hysteria spread from west to east—most epidemics spread from east to west.

We younger members of the profession consider the disease to be a new one; some of our elder brethren state that they have known it for many years, but I am inclined to think that they are confusing hysteria with convulsion of the young due to teething or intestinal irrita-

tion. The presence of ear mites has been confirmed in some cases but I think it is now agreed that this parasite has nothing to do with the actual cause of the disease. We know that 90 per cent. of cats suffer from the presence of the *Dermatophagus scabii* and yet one never sees hysteria in cats. Examination of the brain and spinal cord from cases has always been negative.

Most foreign observers classify the cases into three types—ambulatory, hallucinatory and epileptic.

You are all familiar with the ambulatory type. The dog stops, stares about him as though looking for something and then, with a yell, starts off full gallop. They will run anywhere and cases have been known where dogs have run ten miles before dropping exhausted. I have seen a Great Dane dash through a closed french window dragging his master after him. The dog will take no notice of his master and if in a yard will try to jump the wall, or he tries to hide in a dark corner. In mild cases he will not run very far, soon comes to his senses, and will come to the owner as though seeking protection. For a short time the dog is blind. There is marked dilatation of the pupils and the eyes seem engorged with blood—a symptom to which Sewell drew attention many years ago.

In the second—the hallucinatory—type the dog is very excited, puts up his hackles, growls and behaves as if he had seen a ghost: hence the American term "frights disease." You are all acquainted with the dog affected when he passes a certain spot; others go off when a certain note is struck on the piano, while I once saw an Airedale dog in which you could produce hysteria almost at will by turning a tree pot in the garden upside down. Such dogs are invariably destroyed—the owners cannot stand it any longer.

The epileptic type is generally seen after several attacks of either of the above two types. It closely resembles the attack seen in distemper, but cannot be confused in those instances where one knows the patient has had distemper a long time previously.

To come to an examination of the literature dealing with the spread of the condition, one cannot help thinking that some specific factor may be associated with the cause. Mr. Spicer, in 1928, was one of the first to write on this subject and he considered the condition to be due to a specific virus: I think Mr. Leslie Pugh supported him. If one can be converted to Dr. McDonagh's school of thought it may be assumed that there is a definite toxin circulating in the blood stream causing precipitation of the hydrated protein particles in the perivascular lymphatics. This hydration is occasioned by the activity of one or more micro-organisms in the intestinal tract and any measures that change hydration to dispersion cause the symptoms to vanish. We have all seen numerous instances where the feeding of dog biscuits containing meat or meat by-products causes hysteria. There may be something in the meat which does the damage. Biscuits containing no meat seem to be innocuous. I do not think that a diet rich in carbohydrates can be blamed, as long as the food is free from the meat which may contain the virus or toxin. In cases where the biscuits have been suspect the cessation of this particular feed has been followed by the cessation of hysteria. Feed the biscuits again and hysteria reappears.

Professor Craig, speaking in the discussion on this subject at the Ayr meeting in 1929, stated that he thought the first of our members to come to the conclusion that in hysteria we had to deal with a special disease was the late Mr. Trogan, of Bray, who saw it amongst Alsatians first, and he noticed that amongst Alsatians the diet was the thing that mattered. The diet consisted of biscuits; when the biscuits were withdrawn the symptoms ceased and when they were renewed the symptoms reasserted themselves. "That was an experience which he repeated on many occasions; so much so was that the case with him that he continually emphasised it, and it has come to be known that whenever a case of the kind appears in the country one always recommends that the essential part of the treatment consists of changing the diet."

There was also a very interesting letter appearing in the *Veterinary Record* in April, 1929, in which Mr. Watson, of Blairgowrie, describes two cases where five dogs were fed on dog biscuits and developed hysteria within three days. A collie belonging to a neighbouring shepherd was fed on some of the same biscuits and promtly developed the same trouble. He also describes how two spaniels and one retriever that had always been fed on oatmeal porridge were given a ration of dog biscuits and all developed the disease within a few days. They were then fed on oatmeal porridge for three weeks and were quite all right; biscuits were again fed and hysteria soon appeared. The question is, Why do dog biscuits do that? It is a remarkable fact that I have never been able to produce the disease in dogs in my own kennels by feeding biscuits from the same source as has been alleged to produce hysteria in other dogs. You will get hysteria cases by feeding biscuits that contain no meat or meat by-products.

Some practical men assert that a fat deficiency in the diet is responsible, but on the other hand, we see many kennels, especially of Pekingese, when all the fat is most carefully cut from the meat in the diet and yet no hysteria appears. Deficiency of fat in the diet may be the cause of calculi in the bladder, but I cannot think that it is the cause of hysteria.

Foxhounds are fed oatmeal very freely and I have never had a case in the three packs with which I am associated. A neighbouring pack of other hounds, however, ran out of oatmeal and bought dog biscuits; within four days they had hysteria to such an extent that they had to cease otter-hunting. When they returned to their normal diet the hysteria disappeared and they have never had it since.

I cannot disagree with much that Mr. Hewetson has said and I would like to congratulate him on the way in which he has put a very awkward subject before us. (Hear, hear.) There are, however, one or two points in physiology in which I do not quite agree with the author. With regard to the digestion of fat; fat undergoes no practical change in the stomach and is first acted upon by the bile. I cannot quite see what fat has to do with hysteria, except that Colonel Badcock in a letter to the *Field* some years ago, proved that when his diet was deficient in fat he got hysteria in his kennels and when he added fat to the diet hysteria disappeared.

I do not know of any evidence to show that carbohydrates tend to lessen acid gastric secretion, but it is well established that an excess of fat will depress gastric secretion generally. Payton, a dietetist in America, has shown that the dog will adapt himself to a carbohydrate diet and will thrive upon it. I do not see how the soaking of biscuits increases the difficulty of their digestion, because we know that digestion is impossible without moisture. It is questionable whether the saliva of the dog contains an active starch ferment, and as none is present in the stomach, digestion very frequently does not start until the food reaches the small intestine. Fermentation does occur in the stomach but it must not be confused with digestion.

Mr. Hewetson's statement that the acid nature of the gastric juice is unsuitable for the digestion of vegetable protein is debatable because such material is always digested in any acid medium, but I agree that the protein should be of animal origin since dogs are essentially carnivorous.

One often sees distemper ushered in with an attack of hysteria and here again McDonagh's theory may be brought into use. In old dogs an attack of hysteria is often followed by the typical symptoms of chronic interstitial nephritis. In the latter case one could understand that the urea being in such huge pathological quantities in the blood would tend to precipitate in the smaller vessels in the brain, causing irritation. In these cases the usual remedial measures that give good results in younger dogs are doomed to failure.

The question of vitamin deficiency has been debated, and the only vitamin a deficiency of which produces symptoms of hysteria is vitamin B. All the dog biscuit manufacturers have gone to great pains to show that vitamin B is present in their biscuits and that the vitamin B is not destroyed by the heating they are subjected to during baking.

Concerning the question of infectivity, I, in common with Mr. Hewetson, would have no qualms in bringing a dog affected with hysteria into my hospital provided it were not a young dog and therefore one that might be going to have an attack of distemper. That would rather rule out any suggestion that the disease is infectious, but I do not go so far as to say that it is not contagious. We try to isolate such cases as much as possible and disinfect the feeding vessels. The infective agent, whatever it is, must be taken in by the mouth. There is a large amount of evidence that dogs brought into premises where there is hysteria and fed the diet given there, will eventually develop hysteria themselves.

On the question of mortality, in 1929 I said at Ayr that if the disease followed the same steps that it had followed in America the mortality would greatly increase as it had done in that country, and this is exactly what has happened. Originally there were practically no deaths from hysteria; to-day there is a pretty high mortality. We get cases that will not respond to treatment of any kind and the owners, in despair, have the animals put out of the way. They do not actually die from the disease in many cases but the condition becomes so chronic and occurs with such increasing frequency that the poor animal is eventually destroyed.

Immunity.—If there is any immunity it is, as in influenza and the common cold in man, very fleeting. One seldom sees dogs that have been affected with either the first or second type of hysteria after recovering from an attack have a second go.

Treatment.—I consider that any measure that will rid the blood stream or intestinal tract of the toxin will give good results. Deep intestinal lavage will do this, but it is rather a long and messy job. The subcutaneous injection of large quantities of artificial blood serum or normal saline will do all that is required and is easy to carry out. It is my standard treatment and this together with attention to the diet has given most excellent results in my hands. The great thing in treatment is to wash the blood stream. If you practise that, you will cure the dog providing you pay attention to your diet. There are, however, a certain number of cases of the epileptic type that are most difficult to treat. In these cases, as in a similar type of distemper, there is a definite linking up of the specific toxin with the brain cells and no known treatment is of any avail.

I have nothing to say further, except to apologise rather for not producing anything fresh and

to thank Mr. Hewetson for a very enjoyable paper. (Applause.)

Mr. D. E. Wilkinson (Chigwell, Essex), in a communication read, in his absence, by the Chairman, said that whilst congratulating the essayist upon bringing forward a subject of vital interest to the profession and to dog owners, his own clinical findings on this disease were so utterly at variance with those of Mr. Hewetson that he would like to record them in order to promote a discussion.

The essayist stressed two conditions as being conducive to the illness called by the unfortunate and misleading misnomer of "hysteria," *viz.* (*a*) conformation and temperament as the result of breeding for show points, and (*b*) dietetics.

From the notes he (Mr. Wilkinson) had collected upon 470 treated cases, he found 73 of the patients were Labrador retrievers, a very broad-skulled and essentially docile breed, seven were bull mastiffs, a very similar strain, whilst the vast majority of the rest were spaniels, golden retrievers and nondescript mongrels. Very few were of the highly strung, nervous varieties such Irish setters or narrow skulled fox terriers. This list of 470 by no means exhausted the list of dogs which came under his treatment during the two-and-a-half years the epidemic raged, as it was not started until the epidemic was well established and was abandoned as redundant later on. He had one case in a pug, one in a bulldog and a few cases in Pekingese spaniels. Regarding the disease as essentially contagious he explained the comparative immunity of these dogs by their stay-at-home habits. The roaming and hunting dogs, gun-dogs and foxhounds, were the most subject to these attacks. To dietetics in relation to this disease he attached no importance whatever. His patients had been fed upon all kinds of foods—raw meat, cooked meat, no meat; biscuits, no biscuits; milk and no milk. He had known every fresh dog which was introduced into the kennel, in seven separate instances over a period of two-and-a-half years, to contract the disease within *three days of admission!* Further, he believed, many in-contact dogs which had shown no symptoms of the disease to be carriers of the infection, as after their removal to kennels free from the disease it had broken out amongst the previous inmates, *always within four days!*

On post-mortems carefully carried out by complete removal of the calvaria and the spinal arches as far as the coccyx with the minimum of injury to the brain and cord, he had always found congestion of the main vein at the occiput with evidence of the compression of this vessel. This was quite distinct from the chronic congestion of the brain arising from frequent delirium as a result of uraemic poisoning from chronic nephritis in which engorgement and dilatation of the whole of the cerebral veins was easily seen.

The impression he had gained from a very widely extended experience of the disease was that it was a circulatory one and not a nervous affection, and his clinical findings agreed entirely with those expressed by Pugh, of Sevenoaks. The cases cited of dogs being affected by environment agreed with his own and in his opinion were purely cases of congestion of the brain from fear caused by the memory of a primary attack in the same environment.

He had an Alsatian which, years after its recovery, still feared to enter its owner's drawing room where its first attack took place and a deerhound who flatly refused to go into the park where it first fell ill.

He always classified this as a circulatory disease and considered that the symptoms arose from a sudden "splitting headache" set up by venous engorgement at the base of the brain. The acute pain in this region caused the dog to gallop forward in his efforts to get away from it.

Many nervous affections were wrongly classified as "hysteria." The condition which most nearly resembled these attacks was the congestion of the brain set up by uraemic poisoning the result of chronic nephritis. The present-day craze for raw meat feeding with its resultant acidosis was very largely responsible for this and in those cases a change to a milk diet rapidly effected an improvement.

He did not agree with the essayist that there were "20 or 30 prominent symptoms" and that "no two cases are exactly alike" but considered that all true cases of this disease were practically identical symptomatically and varied only in frequency and duration. Where variations in symptoms existed either some other disease was under observation, some complications or secondary symptoms had arisen or some other affection such as distemper-meningitis was co-existent or had been superimposed.

Dr. J. S. A. Spreull (Dundee) said that he wished to show his appreciation of Mr. Hewetson's very efficient treatise and Major Chambers' opening remarks—he found them both very interesting indeed.

He had for some considerable time taken a particular interest in this condition, hysteria in dogs. In dealing with it when he first started practice, he found that certain features were common to all cases of true hysteria.

Animals suffering from this complaint were attacked with a type of fit which was quite distinct and quite easily distinguished from either epilepsy or convulsions as they commonly occurred in the dog—this fact Mr. Hewetson had made clear in his paper.

In his experience, dogs with hysteria had invariably been fed on a diet which for some time previously—weeks and even years—had been lacking or hopelessly deficient in fresh meat, the diet consisting very largely or entirely of starchy foods such as hound and puppy meals, dog biscuits, rice, oatmeal porridge, potatoes and other similar foods. He had, however, occasionally noticed the condition in animals with apparently sufficient meat in the diet but being fed with sufficient starchy food for an animal three times its size.

At the moment he was quite satisfied, from the evidence he had collected in over six years' experience of the treatment of this condition, that the cause of hysteria in dogs was the feeding of animals on a diet which contains starchy foods greatly in excess of what one would expect in the ration of an animal which is still anatomically and physiologically a carnivore. He considered that the rapid and complete recovery of animals affected with hysteria when treated by dietetic methods only was convincing proof of that statement. He found that, if an animal so affected was allowed a daily ration of one-twentieth of his body weight of beef, the fits would cease within three days. To maintain the cure, he allowed one-fortieth of the body weight in meat for the next ten to 14 days and after that about one-eightieth.

In his experience hysteria was one of the easiest conditions to cure. When the necessary correction of the diet had been carried out he had never know of a relapse.

He had, however, had an occasional very advanced case which did not respond to treatment. These he found had been throwing

several fits per day for months, and he considered the damage in such cases to be irreparable.

Mr. J. K. Bateman (Northaw, Herts.) caused amusement by prefacing his remarks with the observation that if what he had heard there that morning concerning the dietetic origin of hysteria was true, then his place was at home and it was high time he was away there. For five years he had had no experience of the disease and during that time he had been in control of the largest kennel in the world, with a daily kennel strength of 750 dogs. His statistics showed him that during that period 14,000 dogs had passed through his hands, and never once had hysteria broken out in the kennel which he controlled. These were greyhounds, every one "streamlined" and most of them, he thought, had got no brains at all. (Laughter.) These dogs varied in age from whelps to dogs of seven or eight years; they came mostly from Ireland and England and an odd one or two from Scotland.

The feeding system was communal; they had two large kitchens, with two men in each kitchen, who prepared the food in accordance with instructions given by him. The dogs were fed fresh brown bread—never more than two days old—which was cut into thick slices and slightly rusked; they were given one gallon of milk to twelve dogs, also cooked vegetables and a quarter-of-a-pound of raw meat every day, the meat being entirely devoid of fat. The dogs weighed from 55 to 75 pounds (excluding the whelps), the average weight being 61 pounds, and they got, in addition, a ration of cooked meat.

The system differed from that formerly in operation in that there was a great improvement in the quality of the bread; in earlier times it used, moreover, to be rusked very hard, and could not be broken without great effort. Hysteria was common. Another difference was the fact that the vegetables were not now cooked for more than from 20 to 25 minutes.

The system differed from that advocated by Mr. Hewetson in several important respects—it was always fed sloppy, oils and fats were rigorously withheld, except that the puppies received cod-liver-oil, *lightly* cooked vegetables were given and the meat was always finely minced.

Opportunities to excite the dogs were abundant; they had every chance of "going off" if they were going to "go off," but they never went. Two dogs had been admitted suffering from the complaint. These recovered at once without treatment. Was he merely lucky, could he have missed the infection, or was there something wrong and would the disease manifest itself one day soon? How could it be infectious? If it were, one could not take dogs from all over the country and escape the infection: they got distemper commonly enough, but it was never ushered in by hysteria.

He believed the disease to be dietetic in origin. Was he feeding a hysteria-proof diet? If this were so, then where stood the great dog biscuit industry, if his was the hysteria-preventive way to feed a dog?

Prior to coming to Northaw, he had been in charge of greyhound kennels at Manchester and there he saw any amount of hysteria. At these kennels the dogs were fed in four different ways. One kennel received brown bread rusk and sheep's head; the second brown bread rusk and horse heart; the third the rusk and meat, and the fourth a different form of bread with meat. Hysteria broke out, and conditions only changed after the bread was altered to that used in kennel No. 4: when all the kennels were put on to the diet in that kennel where there had been no hysteria, they had no more trouble.

He merely recorded his experience to date and, like Mr. Hewetson, he was prepared to alter his views at any time—but he was not yet prepared to alter his diet. His policy was to give all the necessary vitamins he could and *not* to let them be destroyed by cooking. His experience of hysteria in Cheshire was extensive, but why affected dogs were cured by changing from one dog biscuit to another he never knew. Whether it was due to less cooking, or whether the disease was due to the presence of some foreign substance itself associated with the presence of a vegetable or animal parasite in the flour, he could not say. Meanwhile, he continued to support the vitamin deficiency theory: for he thought that in five years, were the disease due directly or indirectly to a parasite in the flour it *should* have cropped up by now.

Major Hamilton Kirk (London) said that he desired to add his meed of praise to Mr. Hewetson for his very lucid paper on what he thought was a most baffling disease. The author had said that in a kennel of about 20 dogs where hysteria had occurred, diarrhoea was almost always present in a varying degree of severity for nearly two years. He (Major Kirk) would like to say that in his experience diarrhoea was not a characteristic symptom of hysteria; yet, he recollected that the primary condition had been called "frights disease." One then, had to ask, is a dog really frightened or is it merely very excited? If it suffered from fear then the diarrhoea would be more or less easily explained, as they all knew what happened to little schoolboys under similar circumstances.

Mr. Hewetson then said that all treatments other than intestinal disinfection failed to check the diarrhoea; whenever the latter recurred unfortunately, in his (Major Kirk's) experience, such intestinal disinfection had only too often proved ineffective, and he would like to ask the essayist of what his treatment consisted. He assumed that Mr. Hewetson must consider the diarrhoea to be due to invasion of the bowel by an organism, and most probably by the *Bacillus coli*. If so, would not *B. coli* serum be a surer treatment?

The essayist had not expressed his own opinion as to the aetiology of hysteria, and for that he was certainly not to be blamed; but he (the speaker) had for long considered it to be due to an auto-intoxication from the bowel. This view was supported by the favourable results obtained in so many cases from treatment appropriate to auto-intoxication. The dog was purged well, and the bowels kept relaxed; from half to one pint of normal saline solution was injected subcutaneously for several days running, strong sedatives were given to calm the nervous system, and charcoal biscuits given as food. There had been numerous cures and, so far as he knew, very few recurrences.

On the other hand, he was bound to say that from time to time there did appear to be evidence that the disease was due to a specific infection or contagium; and one could find reason for contradicting one's self over almost every aspect of the disease.

Two years ago, at a time when he had a large number of dogs in his boarding kennels, one dog developed hysteria. Within four days there were 15 victims following upon that one case. The contagious nature of the disease was suspected and disinfection and isolation carried

out at once. Since then any dog in the kennels with hysteria had promptly been removed from the vicinity of other dogs, as even mimicry had been held to account for spread of the disease.

He had not the slightest belief in the diet theory. (Laughter.) He had had veterinary control of a kennel of racing greyhounds, never less than 250 in number, for the past ten years, during which time only one serious outbreak of hysteria had occurred. Their diet was similar to that described by Mr. Bateman, and remained the same after the attack had died down. If a veterinary surgeon had large numbers of dogs in his kennels, and prescribed a routine diet of meat and biscuits he would hardly be justified in blaming that food if sporadic cases of hysteria occurred now and then. Surely if the biscuits contained a fungus or mould affecting the nervous system he would expect all dogs to show symptoms and not merely one or two. Then again, the advocates of the diet theory had given such varied facts that he was left bewildered. For instance, in order to effect a cessation of hysteria it was claimed to be essential to cut out biscuits and feed on meat, to feed on biscuits with no meat, to change the biscuits for those of another make, to soak the biscuits, or to feed dry, to add bread, remove bread, or change brown for white; in fact almost every rearrangement which could be effected. A dog's dietary could vary only within very narrow limits, and it usually came down to a combination of the same ingredients.

In private practice one was called to attend an individual dog affected with hysteria. Its food was good and well balanced; treatment was applied and after eventual recovery, the dog reverted to its normal food as before, and in most cases within the speaker's experience there was no recurrence, which prompted him to ask Mr. Hewetson whether he believed that one attack could confer any degree of immunity?

Professor G. H. WOOLDRIDGE (Vice-Principal of the Royal Veterinary College, London) observed that he had come to the front now to make a confession, and it was that he knew nothing whatever about the causation of hysteria in dogs. All the theories that had been put forward and that he had been able to follow through in considerable numbers of cases, and in connection with some of which he had begun to think an advance had been made in dealing with the problem of the causation of hysteria, had been knocked on the head by the next series of cases that had flatly contradicted the view that he had formed in regard to the first series of cases.

Take the question of diet, to begin with. They were told that a pure biscuit diet was capable of producing hysteria. He had followed that up in a series of cases and he had found that there was just as large a proportion of cases when the diet had been solely meat and no biscuit and no farinaceous food whatever. So much, then, for the biscuit diet as the cause of the trouble. The converse had happened where the dogs had had a biscuit diet for a considerable time and numerous cases of hysteria had developed, but which vanished altogether when the diet was changed to meat.

The question of oils and fats had been referred to also. It had been said there that the total exclusion of oils was desirable in order to avoid hysteria. Several years ago he had correspondence with the leader of an exploration expedition to the Arctic who had fed his dogs solely on biscuit food. Those dogs developed very bad attacks, but as soon as he returned and was able to add oils to their food these outbreaks of hysteria disappeared at once. This explorer's view was that the absence of oils in the food was mainly responsible for hysteria. That contradicted a case series under observation, where one gave a reasonable amount of fats and yet hysteria broke out. As Mr. Hewetson had said, you came to a conclusion as to causation one day, and then very shortly afterwards you found the house you had built shattered.

The same thing applied in relation to the view regarding reflex attacks brought about by a focus of infection. Local irritation in the ear had been said to produce such attacks—certainly in many typical cases one had found something wrong with the ears. This applied to many skin diseases and, with equal force, to chronic nephritis. He had seen many cases of hysteria in which, on examination of the urine, one had been able to establish the earlier stages of chronic interstitial nephritis. While granting the value of that, one had made similar examination of urine in other cases and failed to find any indication of renal trouble.

Did they wonder that they knew nothing about the origin of hysteria? In spite of these disappointments, he had come to the conclusion —one that must have been arrived at by many of them and he thought by Mr. Hewetson and Major Chambers—that there was some contagion —but it must be an extraordinary type of contagion. While one had seen instances pointing definitely to an outbreak being traceable to a first case, one had seen an individual instance of an attack amongst other hounds where there had been no contagion and no other case afterwards. He rather felt that the causative agent was likely to prove ultimately to be a filterable virus. He did not think the affection was transmitted by direct contagion; he felt that there was every probability that the cause was a filterable virus transmitted by a vector of some kind. Whether that vector be flies, fleas, lice or ticks, he did not know, but if such a vector did exist it would account for some animals showing infection and others in comparatively close contact escaping. Only the other day he had a Great Dane in the College Hospital which was under colchicine treatment for a sarcomatous condition of the jaw and was improving enormously. One day it became hysterical and tried to climb up everything, even over the railings of the exercising yard. No other case had occurred since among the dogs in the same kennels and exercised in the College yard where this attack took place.

He had had quite successful and satisfactory results in treatment from time to time. Usually, first of all, in the case of ultra-hysterical dogs, an injection of morphia was given. In cases not so violently affected he put them at once on big doses of salicylates and bromide—he did not like the barbiturates for this condition. Salicylates and bromide must be given in big doses—for the fox-terrier, 30 or 40 grains of bromide three times on the first day, reduced to 20 grains two or three times a day afterwards. After about a week he put them on a combination of salicylates and Donovan's solution for a further week, alternating weekly with salicylates and tinct. nucis vom. Where intestinal derangement existed he gave a purgative as soon as the patient had settled down. He believed that to add doses of vitamin B was valuable, and they gave either fresh yeast in the diet daily or marmite. He thought a mixed diet of meat and starchy food, with greens, was the best means of avoiding this condition.

Mr. Gladstone Mayall (Bolton) stated that, having listened carefully to Major Kirk's remarks, he thought that the latter had misquoted Mr. Hewetson when he alleged him to have said that the dog that had hysteria started with diarrhoea. He thought that the essayist had said the opposite in his paper. Years ago, he treated all the dogs that came to him showing these symptoms, with dial—they used to include all the hysterias in the term "epilepsy." He was very successful with them, but dial was very expensive and he left off using it on that account.

As regards diet, he thought that was a great consideration, and that definitely it ought to be changed. He remembered that a colonel in his district had three spaniels. The game-keeper went out with them one morning and they went away all over the country. When they returned the colonel put them out under treatment, but without success and when he got them back he (Mr. Mayall) put them all on dial and fed them brown bread and white and meat stew and meat soup. The results were successful.

Study of diet was very important, for in private practice one had to be able to advise the client what was the best way to feed an individual dog under certain conditions. If one told a client with a dog suffering from hysteria to feed it on brown or white bread dried in the oven, softened with warm water and milk poured over it immediately prior to use, one would get good results.

As regards drugs, he was now using chlorodyne and potassium bromide—he did not believe in purging—but he got them on sedatives as soon as he could.

Mr. H. S. A. Dunn (Hove) said that he had seen hysteria for longer than he could state, but he knew no more about it than when he started. He was convinced, however, that feeding had nothing to do with it. He had a kennel of 150 dogs and was also in charge of a stadium, and his assertion regarding feeding was based upon that very considerable experience.

He was not going to offer any opinion as to the cause. Like Major Chambers, he was not very sure whether or not the disease was contagious—he did not think it was infectious—but he had no hesitation in taking affected dogs in.

He would like to thank Mr. Hewetson for what he had told them, though he was of opinion that he had not told them very much—and the same applied to Major Chambers. (Laughter.)

Mr. A. McLean (Belfast) thought that diet had a great deal to do with hysteria, for in nearly every case in his experience the outbreak had been associated with some particular dog food: he did not say with dog foods as such, but with such foods as had been stored for a long while in the retail shops, and which consequently were stale and often contained moulds. He desired to congratulate the essayist on reading a paper which had produced such an excellent discussion.

Major T. R. R. Hoggan (Vancouver, B.C.), commented that, like quite a number of other speakers, he was rather at sea about that subject, on which he had had a good deal of experience.

Major Chambers had mentioned that in America the outbreak started in the southern States and then gradually worked north. In Canada and the northern States he (Major Hoggan) found that the disease was not so rife in the winter as in the summer. He had had experience of this disease in British Columbia: in 1923 they had it in Oregon and then it worked through to the coast. Commencing in the spring, it continued during the summer and went on right through the winter, and that had been the case all through. After a few years, however, the disease gradually died out, and from 1929-1933 they got very little of it. During 1933 it commenced to come on again, but not in the excessive numbers experienced in the earlier years.

He had tried all sorts of diets, but he did not see any difference. For 40 years he had been feeding dogs on biscuits that people said caused hysteria and he had had no cases amongst his own animals—but he had great difficulty in persuading owners that these biscuits were guiltless. His dogs had dry biscuits in the morning and nothing else; at night they received raw meat. They were Irish terriers and he gave them half-a-pound of raw meat every day of their lives: he never fed them cooked meat. He mixed that with brown bread rusk and some biscuit food and just added a little soup in order to moisten and so soften it. The dogs also got vegetables—carrots, spinach, beet tops, etc., and he avoided giving them starchy food, which caused skin trouble. As far as knowing what actually caused the disease hysteria was concerned, however, he was quite as much at sea as the rest of them.

Dr. L. Jordan (Chichester) observed that it had been a great pleasure that day to listen to that flow of experience and complete ignorance on the part of all the veterinary surgeons there present. (Laughter.) Unfortunately, however, it did not do them, as a profession, any great credit. (Hear, hear.) If they divided that room into two, one-half of the members thought the origin of hysteria to be dietetic and the other half swore that it was not. They must remember that hysteria in dogs now stood revealed as a very serious condition—perhaps not so much in itself but in relation to their work amongst dogs and their owners. Major Chambers had said that dogs were not the animals that the Government bothered about, but there were millions of pounds invested in the industry to-day.

At one time distemper was the great cause of anxiety so far as the canine population was concerned, and the profession got together and did something about it, with the aid of the public, and distemper did not worry us as much as it did. The place of distemper was now taken by hysteria in that respect. Surely they now realised the necessity of getting a fund together, as was done in the case of distemper, so that someone who had a research mind could gather information concerning hysteria, and really do something about it instead of just coming there to relate their mutual clinical experiences which appeared largely to cancel out!

He was personally interested in hysteria, particularly in gun dogs, as he was associated with field trials, etc. There was one especially interesting feature in that connection, and that was that if one dog had hysteria at a shooting party, every dog in the line had it, and he would like to ask Mr. Hewetson what, in his opinion, was the reason for this: would Mr. Hewetson describe it as mimicry associated with hysteria?

The Reply

Mr. H. Raynor Hewetson, in reply, said that it would appear that the majority opinion amongst the speakers that morning was that

hysteria was a question of diet; the only trouble seemed to be that there was a great deal of difference of opinion as to which was the diet that favoured or prevented the onset of the condition. In his mind that difference of opinion fairly showed that diet was not the correct answer to the problem. They had had quoted dogs that had been fed entirely on biscuits, mush food and cooked meat and various other ways as evidence that these types of feeding played a part in the causation or prevention of the disease.

He did not think that the discussion had given him very much to answer, while those points which did call for an answer had been dealt with fairly well by other speakers.

Major Chambers had opened his contribution by saying that he, and for that matter everyone else, knew no more about the subject than they did seven years ago. He had been supported in that view by one or two others, and while there was some truth in that statement it was not the whole truth. There were quite a number of fallacies and theories concerning hysteria seven years ago that no one believed in to-day, and there was no doubt that the discarding of false knowledge was an increase of real knowledge. (Hear, hear.) He agreed, of course, that there was need for sound scientific research on this question; in fact, when he was asked to read this paper to this Congress, he had felt that though the subject needed an airing, someone should do more research into it than was possible for a practitioner. At Ayr, seven years ago, they had been told that there was a fund of several hundreds a year available for research into this condition alone, and something of a promise was made that results would shortly be forthcoming, but he had failed to find any reports of, or to secure any information about, any such research. He was exceedingly sorry to find that nothing on those lines had been done; they would, he agreed, never do anything or get anywhere by merely beating the air of debate.

Major Chambers had traced the history in a slightly different way from him (Mr. Hewetson) but the difference was in such a manner as to lend weight to the theory of causation which Major Chambers obviously believed—infection. He (Mr. Hewetson) had already stated in his paper that many of the outbreaks made the theory of infection apparently unanswerable. If the cause was an infection it must be fairly ubiquitous because they did get cases in dogs which did not go out of their own grounds or mix with other dogs at all.

He (Mr. Hewetson) found great difficulty in confining the symptoms to types. Major Chambers had referred to three clinical types which he knew were well recognised by some. Mr. Wilkinson in his letter said that the number of symptoms was restricted to a few. He could not agree with either of these views; one could see a great variety of symptoms and all the so-called types might be seen in one animal in the course of a short space of time. He thought Major Chambers' case of the dog which had an attack at the sight of an inverted plant pot was a classic case to add weight to his own (Mr. Hewetson's) theory, that the instability of the mind was the primary factor in aetiology, and that this case was provoked into a riot of nervous discharges by the psychological association of something with that plant pot.

Major Chambers had said that distemper could be ruled out in some cases in that there was history of the dogs having had it years before: he was not prepared to accept that. Even if a dog had distemper years ago he would not like to say it had not got it again to-day. Nobody valued more than he (Mr. Hewetson) the great work accomplished by Dr. Laidlaw and Major Dunkin, and the inestimable benefits it had conferred, but he must say that it had given them a great deal more to think about; in fact to-day nobody knew what was and what was not "distemper." (Laughter.) Major Dalling himself had agreed that one got cases that clinically appeared to be distemper from which the specific virus could not be isolated. The clinical condition they had always recognised previous to the research as distemper was now being divided up into affections caused by the virus and those set up by the usual secondary invading micro-organisms acting as primary infections. In America they had coined the term "dry distemper" for the first and "distemper" when the secondary organisms were involved. There also they made their vaccines, viruses and sera not only from the virus, but they incorporated also various strains of the usual organisms associated with it in anticipation of immunising against or overcoming all these infections. The present trend to-day seemed to be to differentiate into a number of separate conditions, each of which would probably some day have its own name and biologics, those conditions which had hitherto been lumped together as distemper. One certainly met numbers of cases to-day in which the serum had no beneficial effect at all, even in the earliest stages. How, he asked, in these circumstances could they say whether a dog had, or had not, had distemper?

The main arguments had centred round the question of diet. He had never seen cases cured by merely changing the biscuit; that might be because he had never advocated that alone but had always effected other dietary changes as well.

He did not propose to attempt a detailed explanation of the physiology of digestion as it pertained to the statements of diet and digestion he had made in the paper. He was not a physiologist and he accepted, and thought they all should accept, the findings of those who had done a great deal of work on the subject. Major Chambers and others sufficiently interested in this angle of the subject would find evidence to substantiate the statements he had made on diet and digestion in the published reports of Pavlov, Richet and Morceau, May and Edward Mellanby, Kucera, Simonnett and Nichita. The most up-to-date survey had been published only this year by Koch and Kab in Germany: "Guide to Canine Nutrition," of which an excellent summary had appeared in last month's *Chicago Veterinary Medicine*. The saliva of the dog was probably merely lubricant and solvent, he did not stress that it had any important action. Major Chambers had drawn attention to the mention of fat as being digested in the stomach. He agreed that that reference was a mistake in the paper which he had not noticed until that moment and that Major Chambers' explanation of its digestion was correct.

When all was said and done, however, it was not the why and wherefore of the diet he had to defend; he was not even saying that diet was the cause of hysteria—what he did say and would still affirm, was, that a good diet went a long way to health and a healthy dog was less likely to fall a victim to hysteria.

He did not stress the necessity for fat but those who had read the article some time ago in the *Veterinary Journal* by Baashuss-Jessen on "Arctic Nervous Diseases" could not fail to be

impressed by the very close similarity of Esquimo dog disease to hysteria, and that had been shown to be due to lack of fat.

Chronic interstitial nephritis had been mentioned. They all knew that that led to uraemia, and uraemia to brain and nervous symptoms, but the same argument applied to that as to distemper. They had had both conditions with them for a long time and had had nervous symptoms associated with them, but it was not until the last few years that these symptoms had been hysteria. Why? The mind again.

Major Chambers had said that mortality was higher to-day than it was in the early cases, but the mortality he spoke of was the destruction of those cases which appeared to be chronic. If destruction and death from disease were to be taken as synonymous perhaps Major Chambers was right, but he still believed very few cases actually died.

Mr. Wilkinson's letter took him to task chiefly on conformation; he had said in his paper that nervous conditions had increased more in those dogs bred with fine narrow skulls than in those with natural broad ones, but even so it was only a question of the majority of cases, and he had not said it was the main factor. However, he still believed the truth of what he had said, and would mention that he had never yet observed a case in a Pekingese. With regard to his (Mr. Wilkinson's) circulatory theory, he was the only man, so far as he knew, who had observed this constriction of the central vein of the brain on *post-mortem* examination. Numerous other workers had recorded the results of their *post-mortem* without being able to establish any definite brain or circulatory lesions.

Mr. Bateman stated that the dogs under his care had no brains (laughter); well if they had no brains they could not have hysteria, so that was that. (Laughter.) Seriously, though, he believed greyhounds had brains but did not agree that they had altogether streamlined skulls, at least in the sense he meant, but were normally broad. Nevertheless he had seen hysteria in greyhounds as had Major Kirk. Mr. Bateman had asked, "Was he lucky?" He (the speaker) thought he had been almost incredibly lucky.

He was afraid Major Kirk had misread some of his paper in asking about the prominent diarrhoea because the only reference he could remember he had made about diarrhoea was that "the diarrhoea which sometimes occurs during hysterical attacks is not sufficiently constant to have any significance" and he had included it in those symptoms which he did not consider had anything to do with hysteria, so that he had really nothing to answer on that symptom. He had, however, to admit that his reference to the one isolated experience in a kennel of twenty dogs which persisted for about two years was vague, the "condition" he meant was hysteria *not* diarrhoea and it was the hysteria which cleared up after intestinal disinfection.

He did not mention the agent used because he did not believe in making public reference to branded preparations, but he would advise Major Kirk privately if he wished.

Major Kirk believed hysteria was primarily an intoxication of the bowel. That was, of course, possible, but they had many cases of obvious bowel intoxication with which there was no hysteria. There might be some element in the food which produced a toxicosis, but he did not believe that alone was at the bottom of the trouble. In reply to his question of immunity his answer was in the paper, that he believed there was none. An attack of hysteria indicated an unstable mind; if the patient's health and condition were kept at a high standard it might not have further attacks, but if it became debilitated it was to be considered more likely to have a recurrence than one that had never had an attack because his nervous instability had already been demonstrated.

Professor Wooldridge had, as always, given them a sound and interesting contribution to the discussion. The suggestion that hysteria might be caused by some type of contagion with a vector in fleas, lice, etc., was, like many other theories, possible but open to objections. Macfie had contributed a number of articles to the *Veterinary Journal* on the subject of hysteria in Lunds, and had almost shown that the disease was transmitted by ticks; yet when these ticks, which were alleged to carry it so consistently about Lunds, were sent away to a fresh set of dogs, they failed to produce it in a single individual. He was unable to understand the professor's objections to the barbiturates; he had found them useful but agreed the use of salicylates was also attended with good results. The administration of vitamin B, which he advocated, was another factor in building up bodily health which was inimical to the incidence of hysteria.

Mr. Scott Dunn had been very frank; he charged both him and Major Chambers with knowing very little about hysteria. The previous night, however, Mr. Scott Dunn had told him (Mr. Hewetson) that he knew nothing at all about it, so that it was gratifying to learn that he had improved his knowledge that very little in such a short time. (Laughter.)

He was very pleased to have Major Hoggan participating in the discussion, giving a first-hand report of his experiences in Vancouver, British Columbia, and North America. He was very interested to learn that Major Hoggan did not find much seasonal variation in these parts which, like his views on raw meat, coincided with his (the speaker's) observations here. On this matter of meat he (Mr. Hewetson) did not know where Mr. Wilkinson (to revert to him) got his antipathy to it; the dog was a carnivorous animal intended by nature to live on meat—his whole history, dentition, and digestive apparatus proved it.

Dr. Jordan had asked whether they were satisfied with the present position. None of them was. (Hear, hear.) He supposed the reason for the absence of any serious demand for vigorous action on research was that despite any alleged ignorance on the subject the disease was in fact fairly well controlled (hear, hear), and the losses were not great; hence the fact that hysteria had focussed neither serious attention nor money. His opinion of imitation in a pack of hounds was given quite definitely in the paper.

He would like to say, in conclusion, how much he appreciated all the kind remarks that had been made about his paper that morning. As he had said in his summary it was really only a collection of the existing knowledge with a few of his own theories added, but it was very gratifying to receive those expressions of appreciation. He also wished to thank those who had contributed to such a good discussion, and all for a very patient hearing.

Dot, one of the world's oldest ponies, has just died aged 50, and her skeleton has been presented by the owner, Mrs. F. R. Gibbs, of Harby, Melton Mowbray, to the Royal Veterinary College, London, for preservation in the museum. The record age of 60 years is said to have been reached by a pony whose skeleton is preserved in a German museum.

LADIES' GUILD

ANNUAL GENERAL MEETING AT SCARBOROUGH

Aid for the Victoria Veterinary Benevolent Fund

The Fifth Annual General Meeting of the Ladies' Guild was held at the Royal Hotel, Scarborough, on Wednesday, September 16th, when there were 47 ladies present, Mrs. W. G. Wragg, the President, being in the Chair. There were also present the Hon. Secretary, Mrs. Nickinson, together with Colonel P. J. Simpson and Dr. Fred Bullock.

After the reading of the Minutes, Mrs. Wragg said: This is the Fifth Annual General Meeting since the inauguration of the Ladies' Guild, and it is gratifying to see such a good attendance. It is unnecessary for me to remind you of the objects for which the Guild was founded or to give details of the extent to which our efforts have helped the Victoria Veterinary Benevolent Fund.

We are fortunate in having Colonel Simpson and Dr. Bullock present, and at a later stage of the meeting I shall ask them to be good enought to give us some particulars of the activities of the Fund. I will now call upon the Hon. Secretary to read her report for the year.

Hon. Secretary's Report

Mrs. Nickinson reported as follows: I think we may regard the past year as fairly satisfactory, although it could and should be very much better. We have been able to add 40 new members, but against this we have to place 13 resignations, which brings our total membership to 341.

During the year 1935 we collected £248 14s. 3d., out of which we have handed over to the Victoria Veterinary Benevolent Fund the sum of £196, and to the National Veterinary Benevolent and Mutual Defence Society £10, leaving a balance in hand of approximately £40.

In conclusion may I take the opportunity of making a special appeal to all, through the ladies present, to do all they can to help to swell the funds, by holding bridge or whist drives, or even small dances. Every little helps and I can assure you, as your representative on the Council of the Victoria Veterinary Benevolent Fund, that funds are much needed; there are many sad cases and any money made by your efforts is put to a very good use.

Mrs. Wragg: You have heard the report and financial statement. They show that, speaking generally, the Guild continues to make progress, but it is a little disturbing to hear from the Hon. Secretary that a number of members have not paid their subscriptions. At a meeting of members held in London a little time ago, that matter was discussed and it was agreed that members who do not pay their subscriptions after three applications have been addressed to them, should cease to be members of the Guild.

May I ask any ladies present whose subscriptions are overdue, if they will be good enough to pay the Secretary at the conclusion of the meeting.

The Secretary's report was then put to the meeting and adopted.

Colonel Simpson's Address

The President then called upon Colonel Simpson to address the meeting.

Lieut.-Colonel P. J. Simpson: I am very glad to have the opportunity of meeting with you to-day, especially because, as you remember, it was Mrs. Simpson and myself who first thought of the establishment of a Ladies' Guild to help the Victoria Veterinary Benevolent Fund. I am very glad to see how successful the Guild has become and to know that the little child we placed out to nurse with you has grown so well. You would no doubt like to know something of the work of the Fund which you are helping. Well, Dr. Bullock knows more of the details than I do, but I would like to give you roughly some idea of the amount of money we spend. In 1935 the Annual Report shows that we gave away in relief £1,368 3s. 8d. as against £1,567 16s. 1d. in the previous year. It is interesting to know how old the recipients of this relief were.

There was one over 90 years of age, five were over 80, twelve over 70, eight over 60, nine over 50, six over 40 and four over 30.

Of the ten younger women, those between the ages of 40 and 50 have a total of 15 children, and those between 30 and 40, seven children. In addition, there are four children who have neither father nor mother.

The grants made by the Fund are as follows: Ten persons receive 20s. per week, five receive 15s., one receives 12s. 6d., 26 receive 10s., one receives 7s. 6d. and two receive 5s.

You will see, therefore, that 29 persons receive 10s. or less per week and only ten can be given as much as £1 a week.

The income from subscriptions is £664 12s. 6d. For the year 1935, there were legacies and donations amounting to £728, but according to the rules this sum had to be invested. The amount of subscriptions received is utilised in giving relief, but if that was all we had to depend on it would not go far among 50 recipients. Fortunately we have been able to invest our legacies and donations, and it is the income from this source which bears the heaviest share of the burden. But think what £664 per annum means. That is the amount of our subscription list, and it comes from 480 subscribers. From a profession numbering 3,526, not more than 480 subscribe at all, leaving 3,046 who gave nothing to the Fund!

Well, if there are any ladies here who have influence with any of these 3,000 members, I hope they will use their influence and so increase the number of subscribers for this very deserving Fund.

I have not gone into details of cases, because they are better known to Dr. Bullock, and I will ask him to address you, but before doing so I would like to make one suggestion which has occurred to me, and which I think you should consider.

You are now growing a society of quite respectable dimensions, with 340 members. I think the time has come when you should consider whether it would not be well to form divisions of the Guild, in the same manner as there are Divisions of the N.V.M.A. The country could be divided up into sections so as to form the divisions, and there could be a President and Hon. Secretary of each division, each responsible for working that particular district, and encouraging other ladies to join and so to increase the membership. The Secretaries would, of course, always report to the General Secretary in London, and in this way I am sure the usefulness of the Guild would be increased. I hope you will give consideration to this suggestion at one of your succeeding meetings. (Applause.)

Dr. Bullock's Factual Appeal

Dr. Fred Bullock: I am very glad to be allowed to speak to you on behalf of the Victoria Veterinary Benevolent Fund. Colonel Simpson has told you that we have about 50 people on our books whom we are helping to the best of our ability, after making proper enquiries to discover whether the applicants are really in need and deserving. I could not, of course, give you details of all these cases, but I can give you instances of a few typical cases. I have just this morning heard of a case which we are likely to consider at the next meeting of the Council. A member in general practice in Ireland, who was building up a good practice, fell ill a few months ago and died within a week, of typhoid. He left a widow and a small family of five children. He had not yet built up any reserve capital, and the widow is left practically penniless. The matter is, of course, very urgent, for the five children and the mother must be fed and clothed and housed, and there is nothing whatever coming in. When the Council considers that case you may be sure they will say "What is the good of £1 a week to a case like that," but we have not got £1 a week to spare. In order to be able to give that grant it would be necessary to secure another 100 subscribers of 10s. 6d. a year, and I do not expect to be able to count on anything like that increase in our subscription list.

I will give you particulars of a few other cases that have come recently under our care:

An English Case.—An unmarried daughter of a member, aged 68, who has been able to earn her own living up to now, and has obtained a National Insurance Pension of 10s. a week. She finds it hard to get any employment at her age except for a little needlework, which brings her in a few shillings occasionally. Yet her father was years ago veterinary surgeon to Lord Rothschild, and her two uncles and two brothers were veterinary surgeons. They are all dead and she has no relatives left. We are giving her 10s. a week.

A Welsh Case.—A daughter of a veterinary surgeon who died recently. Some twelve years ago her husband deserted her, leaving her with a girl of three and a baby boy of twelve months. She has since tried to earn her living, but she has been ill and in hospital. At the present moment the two children are in a home, and she is receiving 18s. a week from the Public Assistance Committee. That case is to be considered by the Council at the next meeting.

A Irish Case.—A widow aged 69, whose husband was killed in 1914. She and her daughter have helped one another ever since, but her daughter, who is now married, and has a child six years old, cannot give any further assistance because her husband is out of work. The daughter herself is unable to work, having undergone a serious operation. The widowed mother has no income until next year, when she will receive the old age pension. The Council of the Fund are giving her £1 a week.

A Scotch Case.—A widow aged 60, whose husband died recently. He had been in indifferent health for some years, and his practice had decayed. She has, when all is realised, a capital of £800. Of course, she could live on the capital, but being Scotch, she has wisely invested it and it brings her in about £30 per annum. She has also £10 a year of her own. Total £40 a year or 16s. a week. What can one do on 16s. a week with rent and rates and coal and gas, and food to buy? She is not impoverished, of course, but she cannot live on 16s. a week. She has been used to better things and the Council think it is a proper case for their assistance, so they are giving her 10s. a week. I am sure you will agree that with her income increased to 26s. a week she cannot be said to be in affluence!

These are some of the cases, and I do not wish on such an occasion to harrow your feelings by going into details of any more of them. Some of the members of the Guild have helped the Fund by visiting one or two of these ladies, and they know how very sad the circumstances are. I hope that in due time, as the Guild grows, that we shall be able to do as Colonel Simpson has suggested, form divisions in different parts of the country, and that the ladies in these divisions will be able to organise

themselves to visit the recipients of the grants given by the Fund, and report to the Council about them. Some of them are living very lonely lives, and it would be a great blessing to them to know that someone was taking a personal interest in their welfare.

If you can do anything to help to increase the numbers of subscribers to the Victoria Veterinary Benevolent Fund, the Council will be very grateful to you. I have here with me a number of Banker's Order forms which could be made use of for the payment of annual subscriptions, and these are at your disposal if you can get them filled up for me. Thank you for allowing me this opportunity of meeting with you. (Applause.)

Mrs. Wragg: I am sure we are very much indebted to Colonel Simpson and Dr. Bullock for their addresses, and I am confident that they will stimulate us all to continue our efforts to raise money to help the Victoria Veterinary Benevolent Fund meet the very many requests made for assistance.

Election of Officers

The following officers were then appointed for the current year.

President.—On the proposition of Mrs. Wooldridge, seconded by Mrs. King, Mrs. Nairn was unanimously elected President.

Vice-Presidents.—On the proposition of Mrs. Nickinson, seconded by Mrs. Minett, the following were unanimously elected Vice-Presidents: Mrs. Wragg, Mrs. Male, Mrs. Wooldridge, Mrs. Simpson, Mrs. Begg, Mrs. McAllan.

Honorary Secretary and Treasurer.—On the proposition of Mrs. Wragg, seconded by Mrs. Wooldridge, Mrs. Nickinson was unanimously re-elected Secretary and Treasurer for the ensuing year.

Honorary Auditor.—On the proposition of Mrs. Nairn, seconded by Mrs. Jackson Young, it was resolved that "Captain Wragg be elected Honorary Auditor for the ensuing year, and that a letter be addressed to Sir John Moore expressing the thanks of the Guild for his past services, which have been very much appreciated."

Vote of Thanks.—On the proposition of Colonel Simpson it was unanimously resolved, "That the heartiest thanks of the Guild be expressed to Mrs. Wragg for her excellent services as President during the past year, and for the enthusiastic way in which she has carried out her duties."

Mrs. Wragg, in reply, said: "Thank you very much indeed for your hearty vote of thanks. It has been an honour to work with the members of the Guild, and I am happy to know that we have had another successful year."

The meeting then terminated.

M. Nickinson, *Hon. Secretary.*

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Oct. 12th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, 4 p.m.

Oct. 17th.—Meeting of the Executive Committee of the Scottish Branch, N.V.M.A., 12 noon; meeting of the Scottish Branch, 2.30 p.m.—both at the Station Hotel, Dumfries.

Oct. 21st.—Meeting of the Western Counties Division, N.V.M.A., at Taunton, 2 p.m.

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"CONGRESS NUMBER" ACKNOWLEDGMENTS

Our thanks are due to many participators in the proceedings of the Scarborough Congress who, remembering editorial requirements, have expeditiously forwarded material facilitating the production of a representative Congress Number at this date, with particular reference to the section devoted to demonstrations and operations. We are, however, under a special obligation to Mr. R. C. Locke, M.R.C.V.S., D.V.S.M., of Manchester, and Mr. Hodges, of Messrs. Willows & Co., for enabling us to illustrate this issue with some pleasing "snaps," despite the rather evident difficulties attendant upon the stubborn refusal of the sun to assist.

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PERSONAL

Appointment.—Among the appointments recently made to the academic staff of the University of London is that of Dr. James Yule Bogue, M.R.C.V.S., Lecturer in Physiology at the Royal Veterinary College, London, as Honorary Research Associate in the Department of Physiology, Pharmacology and Biochemistry, in the Faculty of Medical Sciences.

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Birth.—On Monday, September 21st, at Birklands, Hallaton, Market Harborough, to Thekla, wife of George Eaton, F.R.C.V.S., a son.

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Colonial Service Transfer.—It is announced that Mr. H. A. Hay-Barclay, M.R.C.V.S. (Veterinary Officer, Kenya), has been appointed Veterinary Officer, Nigeria.

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Dr. H. H. Curson, F.R.C.V.S., formerly of the Department of Veterinary Services and Animal Husbandry, has assumed duty as Deputy Director of Native Agriculture in the Department of Native Affairs in South Africa.

R.C.V.S. OBITUARY

Littler, Titus, of Elgin Lodge, Melton Mowbray, Leicestershire. Graduated London, April 2nd, 1879; died September 29th, 1936, aged 81 years.

Mr. Littler was well known in the Melton and Long Clawson districts, where he had practised for nearly 60 years, retiring at the end of last year.

Urmson, Joseph, Minerva Villa, 5, Chorley New Road, Bolton. Graduated New Edinburgh, April 26th, 1886; died October 4th, 1936, aged 71 years.

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LEGAL NOTES

Swine Fever Treated as Swine Erysipelas.—When J. W. Savage, an Ousley farmer, was charged at Penrith with having in his possession or under his charge a number of pigs affected with or suspected of swine fever, and failing to give notice to the police with all practicable speed, Captain Woodhead, M.R.C.V.S., a Ministry of Agriculture veterinary inspector, said he visited defendant's premises and conducted *post-mortem* examinations of the carcases of two pigs which were exhumed for him. He found that they had suffered from swine fever.

Answering defendant's solicitor, witness said defendant had evidently been treating the pigs for swine erysipelas, and there were 40 bottles which had contained a serum for swine erysipelas. It would be very costly, and there was evidence that it had been extensively used. He agreed that in the early stages there was some resemblance between swine fever and swine erysipelas, but in the later stages there was a marked difference. Defendant had had experience of swine fever, and ought to have reported even if he was suspicious. There had been other cases in the district arising from the outbreak.

Defending solicitor said he was not contesting the evidence of Captain Woodhead, but his client was charged with failing to report, and it had to be proved that it had been done knowingly; the Bench must be satisfied that defendant knew that he had swine fever on the farm. That Mr. Savage had reported swine fever in the past showed that when he knew he had swine fever he took the proper couse; and if he had known he had swine fever he would again have reported. One pig was slaughtered, and it was thought to have suffered from swine erysipelas. Defendant had bought £12 to £14 worth of serum for inoculating the pigs against swine erysipelas. A large number recovered but several died. There was nothing to suggest that defendant had known there was swine fever on the farm, and deliberately hushed it up.

Defendant gave evidence and said he had been keeping pigs for ten years, and had had some swine fever on several occasions in the past and had reported it to the police. The pigs began to ail and he called in a Mr. Smith, "an expert," who examined the pigs. A pig was killed for examination, and Mr. Smith said it was swine erysipelas, and suggested the use of serum. He (defendant) did not report it because after examination he was quite confident it was erysipelas.

The defendant was fined £5 and £2 1s. special costs, the Chairman remarking that an experienced man like the defendant ought to have suspected swine fever.

GRASS DISEASE IN BANFFSHIRE

At a recent meeting of Banffshire Public Health Committee the county veterinary officer, Mr. W. M. McKay, referred in his report to the situation during the summer in the county as regards grass sickness in horses.

This disease, he said, had taken a heavy toll of the horse population of the county. From the figures available it appeared that about 150 horses died in the county during the grass sickness outbreak. In all probability this represented a loss of about £6,000 to the farming industry in the short space of six weeks. Most of the animals attacked were between three and five years old, although it had been reported in animals up to 20 years old. The knackeries had reported that this had been the worst grass sickness year since the condition was first recognised.

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TUBERCULIN TESTED MILK

At a general meeting in London of the members of the Tuberculin Tested Milk Producers' Association, the proposal to include tuberculin tested milk in the Milk Marketing Scheme was discussed, and the following resolutions were passed:—

"That this meeting considers the terms inadequate, and in the event of the Executive Committee being unable to obtain better terms from the Board, that they request the Ministries of Agriculture and Health that an inquiry should be held into the cost of production of tuberculin tested milk and the supply thereof before they make an order bringing us into the Milk Marketing Scheme.

"That before any terms are accepted by the Executive Committee for our inclusion in the Milk Marketing Scheme, these terms are submitted to a full meeting of the members of the Tuberculin Tested Milk Producers' Association."

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ERRORS IN BIOLOGICAL ASSAYS

Reviewing the recently issued report of the British Pharmacopœia Commission's subcommittee on the accuracy of biological assays (published by the General Medical Council, Price 1s. 6d.) the *Pharmaceutical Journal* says: "Owing to the uncontrollable variation in the response of animals to therapeutic treatment, it is impossible to obtain by biological means a measure of the potency of a substance as accurate as that generally given by chemical determinations. The determination of the vitamins in most substances and of antitoxins and antibacterial sera can only be made by biological methods. Since the animal response to a given factor varies not only in different animals at the same time, but also in the whole stock of experimental animals from time to time, it is essential to have a certain preparation of that factor as a standard of reference available for all workers, and to make a test on it simultaneously with every test of that factor in other preparations. Even then, the variation in response of different animals leads to a possibility of a wide error in the determination. It is evident that the larger the number of animals used in a biological determination, the more nearly will the average result approach the true result; but obviously there must be a limit in each test to the number of animals that can usefully be employed in the test, for doubling the number of animals does not result in halving the possible error of the determination.

"It is possible to work out from experimental data already obtained in any one kind of test, the various probabilities that a determination will lie within certain limits, expressed as percentages of the true result. This has been the task of the Sub-Committee of the Pharmacopœia Commission on the Accuracy of Biological Assays, a report of whose work has been published. From information collected by workers in different laboratories, the sub-committee has calculated what it has termed the "limits of error" of these biological tests; that is, the one chance in a hundred that the result obtained by the method described will lie outside the limits calculated. There are, of course, very good probabilities that the result will lie much nearer the true result than the figures given, but the sub-committee has not been concerned with these probabilities; it has confined itself to almost certainty. Moreover, although these limits have been calculated from the errors occurring in actual experiments, the committee states that the error is liable to vary under conditions which cannot always be precisely defined, and individual workers should estimate the error from their own data."

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INTERNATIONAL INSTITUTE OF AGRICULTURE

The Thirteenth General Assembly of the International Institute of Agriculture commenced in Rome on Monday last. A general statement by the President, Baron Acerbo, and a report on the services and administration of the Institute by the Secretary, Professor A. Brizi, had been circulated to the delegates and a number of important questions arising out of these reports were discussed by the assembly. Other important items on the Agenda were reports on the financial position of the Institute; on organisation and staff questions; on international collaboration in agriculture and on agriculture and nutrition.

A special commission met in connection with the assembly to discuss the results of the World Agricultural Census held in 1930, and arrangements for a similar census which it is proposed shall be carried out in 1940.

The United Kingdom delegation was led by Mr. H. Ramsbotham, O.B.E., M.P., Minister of Pensions and recently Parliamentary Secretary to the Ministry of Agriculture and Fisheries.

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TUBERCULOSIS ORDER AND MEAT SALE QUESTION

Veterinary and legal opinion is to be laid before the Derbyshire County Council by the Agricultural Committee in support of the latter's contention that the proper way to deal with sound meat from carcases of cattle slaughtered under the Tuberculosis Order is to sell it for human consumption.

The Committee have been informed that the Council had again decided not to receive a report setting out arrangements made for the collection by a butcher of carcases of animals slaughtered under the Order.

The Clerk to the County Council (Mr. H. W. Skinner), reporting on the legal aspect of the matter, said that the sale of the meat under the existing system realised £600 per year, and that the Committee had been directed by the Council to discontinue sale for human consumption. That was a constitutional committee which would be guided in the normal course by the opinions of the Council. Under the Order it was laid down that if any portions of the carcase could be sold the receipts from the sale must go towards the rates. If the sale of meat realised more than the amount of compensation paid the extra had to be handed to the owner of the animal, and that position had arisen in 13 cases during the past few years.

The Committee, therefore, were in the position of trustees to the owners, and must dispose of the carcase for the best price. If they did not do so, and there was a surcharge made by the Government Auditor, responsibility would be on the Committee and not on the County Council.

Mr. C. A. Stone (Chesterfield) said that if any of the meat was sent to Sheffield the Medical Officer of that city was at once notified so that he might examine the meat and keep it under observation by his department until it was sold. Prior to that it would have been passed by the Derbyshire Chief Veterinary Officer and the Sanitary Officer.

It was decided to adhere to the present practice, and to forward to the County Council the reports of the Clerk and the Chief Veterinary Officer.

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DISEASE AND DIET

Before the Section of Nutrition at the recently-held British Medical Association meeting at Oxford, Mrs. M. Mellanby (London) demonstrated the various grades of hypoplasia seen in both deciduous and permanent teeth of man and dog. Her demonstration is summarised in *The Lancet* of September 12th in the following terms:—

"Mrs. Mellanby used the term 'hypoplasia' (literally underdevelopment) to cover any form of imperfect calcification, basing her standards mainly upon nutritional experiments on animals of different species. She paid particular attention to the teeth of dogs because when domesticated their diet was in many ways similar to that of man and the structure of the teeth was fairly comparable. Perfect teeth, she explained, had a smooth, white and shiny surface. The ground sections, when viewed under the microscope, were seen to possess enamel of normal thickness for the type of tooth and with none of the defects recognised at the present time. The dentine was relatively thick and contained no interglobular spaces. In contrast, hypoplastic teeth of man and dog were more or less rough, discoloured, and opaque; the denture was thin and had interglobular spaces; the enamel, which also was comparatively thin, showed in section defects such as deep pigmentation, and greater powers than the normal of staining, an indication of poorer calcification.

The demonstration included a graded series of teeth which served as standards of degrees of hypoplasia, specimens of human and dogs' teeth and stained microscopical sections to correspond, and charts made in connection with investigations on children. These last demonstrated that the amount of caries present was associated with the quality of the structure of the teeth, and that even in hypoplastic teeth the onset and spread of caries could be delayed by increasing the vitamin D and calcium in the diet. Mrs. Mellanby also showed examples of the natural and artificial production of secondary dentine in the pulp of the tooth as a reaction to injury; this reaction was seen to vary with the diet. Mothers' diets were shown to affect, to some extent, both the deciduous and permanent teeth of the offspring."

NUTRITIONAL REQUIREMENTS AND EVOLUTION OF BACTERIA

"Knowledge of the nutrition of bacteria in general is meagre and scattered; without some co-ordinating theory it remains a series of undigested facts," says the *British Medical Journal* of August 15th, and continues: "Mr. Knight, in a monograph on bacterial nutrition,* has aimed at collecting and systematising the available observations, and at unifying them on the basis of a consistent theory. These observations are described in the first part of his report in considerable detail; in the second part he discusses their co-ordination; and in the third part the mechanism of nutritional variation. Four stages in the increasing complexity of nutrient requirements are recognised. In the first stage, carbon is assimilated as CO_2, and nitrogen is taken from inorganic sources, particularly ammonia, the energy needed for this process being derived from the oxidation of simple inorganic compounds or from radiant and chemical energy. In the fourth stage, energy and carbon compounds for assimilation are derived from the utilisation of carbon compounds more reduced than CO_2; nitrogen assimilation is effected from an array of amino-acids, and accessory growth substances are also required. Mr. Knight regards this classification—according to increasing complexity of requirements—not merely as a method of systematising existing knowledge, but also as an expression of the course of bacterial evolution. He supposes that the earliest bacteria arose under primitive conditions when only the simpler compounds were available for nutrition, and that bacteria with more complex nutritional needs have lost the power to synthesise compounds essential to their metabolism as these have become available in their environment. This theory does not account for the appearance of the complex machinery necessary for the processes of the first stage. It might be equally justifiable to assume that bacteria first arose under special local conditions where more complex substances were available. Nevertheless, there is little difficulty in accepting the view that the need for certain amino-acids results from the loss of the ability to synthesise them, since amino-acids are essential components of living matter. This view is supported by the occurrence of two types of strain in the same species—for example, *B. typhosum*—one of which requires amino-acids while the other can assimilate nitrogen from ammonia. It may be more difficult to accept the suggestion that the special factors required by certain bacteria are essential to the metabolism of bacteria generally, and are synthesised by those which do not require them in their food. This theory is, however, consistent with the lack of specificity of the sporogenes factor, which is required also by *Cl. botulinum* and *Cl. welchii*. It would be difficult to understand why these three organisms should have developed the need for this one factor. The view is also supported by the fact that the sporogenes factor is synthesised by bacteria of lower nutritional levels. The loss of synthetic ability so far as nutrition is concerned may be accompanied by the development of other new and increased powers, among them the power to attack living cells characteristic of pathogenic organisms. Hence the complexity of the nutritional requirements of pathogenic bacteria. A good example of the parallelism between pathogenicity and nutritional requirements is afforded by the acid-fast bacilli. On the one hand *Myco. phlei*, which is not pathogenic, can use ammonia and simple carbon compounds; at the other extreme, Johne's bacillus requires growth factors besides amino-acids and complex compounds."

*Bacterial Nutrition. Material for a Comparative Physiology of Bacteria. Medical Research Council. Special Report, No. 210. London: H.M. Stationery Office. 1936. (3s.)

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The views expressed in letters addressed to the Editor represent the personal view of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

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PERSISTENT VOMITION IN PUPPIES: AN ENQUIRY

To the Editor of the Veterinary Record

Sir,—I have had a number of cases lately in young pups, between the ages of two to three months, in which the pup becomes very suddenly ill—vomits persistently for about 24 hours, and then dies. The rapidity of onset is remarkable, the puppy being lively and eating well until a short time before it starts to vomit. These cases have occurred sporadically, though one or two of the puppies were housed with others at breeding kennels.

No treatment is of any avail, as the pups vomit everything they are given, including very small quantities of milk and soda-water, meat juice, milk and egg-white, chlorodyne, chloretone, etc. I tried normal saline and glucose, 5 per cent. injections, in one case, but it did not respond. The temperature drops very quickly—I do not know whether there is a rise of temperature to begin with, but I have always found it sub-normal, and the owners have in most cases sent for me very soon after the puppies started to vomit. In all cases there is jaundice—very pronounced. This is presumably secondary, but may have some significance. In most cases there is blood-stained diarrhoea sooner or later.

Post-mortem shows a gastro-enteritis, which in some cases is not at all advanced, and does not seem sufficiently acute to have caused death by itself. There is congestion of the lungs, which is presumably not significant as it probably occurs as a result of the ultimate strain on the heart. In one case there was congestion of the kidneys.

Professor Craig, of Liverpool, examined some organs for me, bacteriologically, and found nothing which in his opinion might have caused death.

I do not believe these cases to be so-called distemper. Their course is too rapid, and they are apparently non-infectious or contagious. Nor do I think feeding has much to do with it, since most of the puppies have been fed in different ways. There is never any foreign body to be seen, and I have had no reason to suspect any poisoning.

I should be very interested if any of your readers would give me their opinion on what these cases might be, and if they could suggest any helpful line of treatment.

Yours faithfully,

Marjorie Kerr Wilson, M.R.C.V.S.

Delavor House,
Heswall,
Wirral,
Cheshire.
October 3rd, 1936.